

# Clic 3.0



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## Basic operation of Clic

### How to load an activity or a pack from the disk

To load an activity or a pack you must click with the mouse on any of the buttons identifying the different kind of files the programme uses:



ACTIVITY PACKS



WORDSEARCHES



PUZZLES



CROSSWORDS



ASSOCIATIONS




TEXT ACTIVITIES


If you click on the elements from the file list you will see the description of the activities and packs in the "Info" field.

Activity packs can either be in **open (PAC)** or **compact (PCC)** format. When they are in compact format you cannot edit them. This means that if you need to check the way activities are set up in a **compact pack** or you want to modify them, you will have to turn the pack into an open one by using **ClicPac** (page 53).

### Puzzles

The aim of this activity is to reorder an image or a string of text.

With  button you can select the type of puzzle and the number of cells in it.

With  button you can see the whole image to be reordered.

## Types of puzzles

There are four kinds of puzzle in CLIC:



**SWAP:** You must solve the puzzle by changing the placement of the cells in a single grid.



**DOUBLE:** You must reconstruct the puzzle in the left grid by dragging the pieces from the right grid.



**HOLE:** One piece disappears from the grid, leaving an empty space. Clicking on any of the neighbouring pieces moves them to the empty hole.



**MEMORY:** All the pieces of the puzzle are doubled in a single grid. You must uncover two pieces at each turn. When two identical pieces are uncovered, they are solved. If the uncovered pieces are different, you must remember their placements. The aim is to solve the puzzle in the least number of attempts possible.

The **Normal Values** button selects default values.

The **Compress image** option compresses the bitmap in case it is too big to fit in the window. If this option is not active, the image will be cut up. Some of the Windows screen controllers may create problems when trying to compress an image with more than 16 colours.

## Associations

Clic includes different types of association activities:

- **Normal association**

In this kind of association, both grids must have the same amount of elements on a one-to-one basis. The elements in the grids must be matched by joining them with the thread that pops up when clicking an unsolved cell.

- **Complex association**

In this type of activity, the two grids may have a different amount of cells.

There may be cells in the target grid that doesn't correspond to an element in the source grid and there may be a number of elements in the source corresponding to a single target cell. Thus, the elements in the target grid don't disappear when a match is made.

- **Identification activity**

Instead of relating two different elements, this activity requires you to select the element or elements that fulfil the task proposed in the message box of the activity. The activity is finished when all the correct elements have been identified.

- **Exploration activity**

This is an activity you don't need to solve. By clicking on the different elements in the main window you can see the information associated to them. Once you have explored the contents of the window, you may click on the 'next activity' buttons or run another activity or pack.

- **Written answer activity**


To solve this activity, you must type the correct answer to each of the questions in the cells in the main window. The cells may be solved in any order. You can use the mouse to click on the element you want to solve.

- **Information screen**

This activity (included in the association group) is intended as an introduction to the next activities.

Once seen or read, you may click on the 'next activity' button (when you are in an activity pack) or run another activity or pack from the disk.


Typically, these activities are used to relate, identify or examine the elements in the windows on the screen. The windows may contain either image or text.

If the activity includes the  button, you may activate the help screen. By clicking on the elements in the help screen you will highlight the matching fragments on the opposite screen.

## Wordsearches

In this activity you must find the words hidden in the left screen. When you find a word, you must click on the first letter, pull the thread to the end of the word and click again on the last letter. If there are two grids in the activity, you will see the fragments uncovering every time you find a new word.

The words may be hidden horizontally, vertically or diagonally. They may also be written backwards.

By clicking on  you may check the list of hidden words and, if there are two grids in the activity, see the matching cell.

## Crosswords

The aim of this activity is to find the words that make up the left grid by reading certain clues. Words cross horizontally and vertically in each cell.

You may choose the direction you want to write the words in by clicking the across or down clues. The active direction is visually marked.

## Text activities

There are six different kinds of text activities in Clic:

- **Fill in the blanks**

The aim of this activity is to fill in the blanks in the text with the correct word or text string. There are different modes: fill in the empty blanks, select a phrase from a list of options, correct the mistakes in a text, follow a dictation with sound files, etc.

The "blanks" may have help screens that are activated in different ways: by placing the

cursor on them, when you write or choose the wrong answer, or by pressing F1. These help screens may disappear after a while or by pressing ESC.

You can correct these activities either **immediately** (the expression in every blank is corrected just after writing it in) or **deferred** (you must click the button at the bottom of the window to correct the activity). In activities that are immediately corrected, you may decide not to allow movement to the next blank until the previous ones are correctly filled in.

Correct answers may either be displayed **in blocks** (you only show whether each blank has been correctly filled in or if there is a mistake) or **letter by letter** (the programme indicates the incorrect parts of the answer).

- **Completing text**

In this activity you may move the cursor anywhere in the text to write whatever is missing.

The activity is corrected by clicking the button at the bottom of the text window: the programme shows the missing elements and highlights the wrong answers.

- **Identify letters**

In this activity you must use the mouse to click on each of the letters that are part of whatever has been described in the task set. If you click on a letter that has already been marked, you will restore it to normal.

You can correct the activity by clicking on the button in the bottom left of the text window. The programme will indicate the number of missing letters and will highlight any incorrect letters that may have been marked.

- **Identify words**

In this activity you must use the mouse to click on each of the words that form part of whatever has been described in the task set. If you click on a word that has already been marked, you will restore it to normal.

You can correct the activity by clicking on the button in the bottom left of the text window. The programme will indicate the number of missing letters and will highlight any incorrect letters that may have been marked.

- **Ordering words**

You can either use the mouse or the keyboard [Enter] and the scroll keys to do this activity. You must arrange the words that have been jumbled in a string of text, always by shifting the placement of two elements.


Usually the words are jumbled with others in the same paragraph. However, you can set more difficult activities by shuffling them amongst different paragraphs.

You can correct the activity by clicking on the button in the bottom of the text window. The programme will indicate the words that have been correctly placed and the ones that are in the wrong placement.

- **Ordering paragraphs**

You can either use the mouse or the keyboard [Enter] and the scroll keys to do this activity. You must arrange the paragraphs that have been jumbled in a string of text, always by shifting the placement of two elements.

You can correct the activity by clicking on the button in the bottom left of the text window. The programme will indicate the paragraphs that have been correctly placed and the ones that are in the wrong placement.

If the activity offers the  button, you can activate the help screen. In some cases there may also be an initial text with indications or clues that will help you solve the activity.

## How to repeat the same activity.



The green flag is used to re-start the activity that you are already doing. The cells will shuffle again and the timer and counters will go back to zero.

## How to move on to the next activity.

When you are using an activity pack, you may move to the previous or the following activity by clicking on these buttons:



## How to get help in solving an activity.



By clicking on this button you may get help for the activity you are working on.

You will get the following kind of help for the different types of activity:

**Puzzle:** You will see the complete text or image that has to be reconstructed. In the double mode you may click on the help button to check the corresponding placement for each of the fragments in the right grid. There is no help available for the memory mode.

**Association:** Help will show the ordered contents of the source grid. By clicking on the help button you may see the cell that corresponds to each element in the image grid. There is no help available for the exploration, information screen and identification modes.

**Word search:** When you click on help, a list of the hidden words in the grid will pop up. If there are two windows in the activity, you may click on the list to find the corresponding cell.

**Text activity:** The help window will show the text that should result after the correct completion of the activity.

**Crosswords:** No help available for crosswords.

The help button for the activity may be activated from the **activity options** menu (page 28).



## How to quit the programme



You will quit the programme by clicking on this button. If new activities or packs have been created or there has been a change in any of the activities, Clic will ask if you want to save them before quitting.

## Creating and modifying activities and packs

To create new activities or packs or to change their contents, you must choose the appropriate option in the **Edit** and **File** menus.

These options will be available if the CLIC.INI file includes the parameter **editable=yes**. If you want to create activities or packs in a directory or disk different from the ones normally used by CLIC, you must indicate it in the **Global options** menu (page 32).

### Working directory

Before creating an activity or a pack, the programme will ask about the directory you want to work in.

All the ingredients that make up an activity (graphics, text and sound.) must be in this working directory.

The **Global Options** menu will display the working directory that has been initially proposed.

You can neutralise this window by clicking the **Do not ask again** box. In this case, next time you create a new activity the programme will take you directly to the corresponding window, assuming you are using the same working directory.

### Creating activity packs

To create or edit an activity pack you must add or remove activities from the list on the left of the window by using the buttons:

**>> Add >>** Inserts the activity chosen from the left-hand list to the pack. The new activity will be placed immediately after the highlighted line in the right-hand list or at the end of the pack if there is not a highlighted line.

**<< Remove <<** Removes from the pack the activity that has been chosen from the right-hand list.

The activities that are part of a pack must be in the same disk and directory or in a derived subdirectory. You may change the working directory from the **Global Options** menu.

Once you have set the list of activities that will make up the pack, you may also adjust the following options:

**Move on automatically** If this option is active, you will move on automatically to the next activity once an activity is finished.

**Delay** In this field you may indicate a delay time (in seconds) between the end of an activity and when to begin the next one. This value will only be taken into account if the option **Move on automatically** is active.

- Move on buttons** The 'next activity' buttons are not displayed on the screen when this option is not active. These buttons can only be turned off if the option **Move on automatically** has been selected.
- Separate move on buttons** The move on buttons are usually together on the left of the window. By activating this option, each will be placed on either side of the message box.
- Disk button** This button is used to run a new activity or pack. It will disappear from the screen if this option is not active.
- Door button** This button is used to quit the programme. It will disappear from the screen if this option is not active.
- Threading** With this button you may access the configuration of the threading options for packs and activities.
- Check 800x600** You should mark this box for packs that include activities designed to be displayed in 800x600. The programme will display a warning message if a user tries to run it in a computer configured with a 640x480 resolution.
- Check 256 colours** This box checks that Windows is configured for 256 colours or more. The programme will display a warning message if a user tries to run it in a computer configured for 16 colours.

The **testSystem** line from the CLIC.INI file (page 34) allows you to render inactive all warnings derived from the screen resolution and colours checkouts.

Once you are finished with a pack and you have checked that it works, it is advisable to compact it by using the **CllicPac** programme (page 53).

## Pack threading

The "**Threading...**" button allow you to access the threading options from the activity pack editing window.

Once you are finished with the last activity in a pack, you may get CLIC to activate another pack automatically. This pack threading may follow a given order or may be done in different ways depending on the results obtained in the activities and the time used to solve them. The global assessment of the results is done with percentages according to the criteria established in the Activity Report.

- Default threading** To choose an automatic threading for the pack you are editing you must choose the **Default threading** option and select or write in the list the name of the pack that must follow. You may thread a pack onto itself and thus create a continuing set of activities.

**Low threading**

You may have a different threading when the user's results are below a certain value. To indicate this you must choose the **Low threading** option, then set the result that will cause this threading in the field **Global score <** and select or write in the list the name of the pack. Optionally, you may choose a time limit to solve the pack in the field **or time >**.

The low threading will take place if you go over the time limit or if you get a result lower than the one that has been set.

**High threading**

If the global score is over a certain percentage, you may also set a **High threading**. In the field **Global score >** you indicate the minimum score to access this kind of threading. Optionally, you may choose a minimum time to do the pack in the field **and time <**.

The high threading will only take place if the user's results are higher than the percentage set and the pack has been done in less than the time set.

If the results obtained and the time used to do the activities in the pack don't fall within the requirements set for the "*Low threading*" or "*High threading*", there will be an "*Default threading*".

In the drop-down lists you will only find the packs that are in the working directory and in the ones derived from it. If you want to move on to a pack that is in a folder in a lower level, you must write its relative location, using two dots to move down on the tree. For example, the expression `..\start.pac` will cause the pack to thread onto the **start.pac** pack in the folder previous to the one where the current pack is.

## Creating puzzles

To create or modify a puzzle you must set the parameters:

- **Contents**

The contents of the puzzle may be **image** or **text**. If you want to create a new text or an image you must select the option **NEW TEXT** or **NEW IMAGE** from the list.

With the **Edit contents** button you may activate Paintbrush or Notepad to create or modify the selected text or image.

- **Type**

In this option list you must select one of the puzzles used by Clic: **Swap**, **Hole**, **Double** or **Memory**.

- **Divisions**

You must indicate here the number of across and down cells into which you will divide the chosen image or text. The option **Compress image** guarantees that the graphic will fit in the space available to solve the puzzle.

- **Placement**

In this section you set the physical placement of "A" and "B" grids in the screen, only in the *Double* puzzle mode. CLIC will automatically adjust the size of the grids to the available space in the working area. The placement of the grids may affect their final size.

- **Messages**

You write here the messages to be displayed at the beginning and at the end of the activity. You can also use here images, sounds, music and other multimedia resources as explained below in *Import graphics, multimedia resources and special commands* (page 24).

- **Fonts**

With this button you may select the font and colour to be used to represent the texts, as explained in page 24.

- **Options**

By activating this button you access the **Activity Options** window (page 28).

## Creating associations

To create or modify an association activity you must set the following parameters:

- **Type**

In this section you indicate the kind of activity you are creating or modifying. The different kinds of associations you may have in CLIC are:

**Normal, Complex, Indicate, Explore, Written answer and Information screen.**

(For a detailed description of each kind of activity, please refer to page 5)

- **"A" and "B" Grids**

The contents of the grids that make up the association may either be image or text. If you wish to create a new image or text, you must select the options NEW TEXT or NEW IMAGE from the lists.

With the **Edit contents** button you may activate Paintbrush or Notepad to create or modify the chosen text or image. When you edit a normal association where text and images are related, you must remember that the different elements in the image will be dealt with from left to right and from top to bottom. If you want to follow a different order or it is not a paired association you must select the 'Complex Association' mode.

For 'Information Screen' and 'Identification' activities, you only need to indicate the contents for grid A.

In 'Written Answer' activities, the contents of grid B must always be text.

- **Solved grid "A"**

When a pair is matched, the corresponding cell in grid "A" usually receives a grey background. In this section you may indicate a contents file that will be displayed in grid "A"

every time an element is solved. If this content is a text file, it will be written in blue so that it is different from the cells that have not been solved yet.

You cannot use this option in the 'Information Screen' nor 'Explore' modes.

- **Dimensions**

You indicate here the number of horizontal and vertical cells that the contents of grid "A" will be split into. If you want grid "B" to have a different amount of cells you must select the **Complex Association** mode and change the distribution of "B" in **Relationship assignment** (page 14). You may also decide to shuffle grid "A", "B" or both when you begin the activity.

- **Placement**

In this section you define the placement of "A" and "B" grids in the screen. CLIC will automatically adjust the size of the grids to the working area. The placement of the grids may affect these dimensions.

- **Messages**

You write here the messages to be displayed at the beginning and at the end of the activity. You can also use here images, sounds, music and other multimedia resources as explained below in *Import graphics, multimedia resources and special commands* (page 24).

- **Fonts**

With this button you may select the font and colour to be used to represent the texts, as explained in page 24.

- **Assigning relations**

You use this button to indicate the assignment of relations in Complex Associations, Identification and Exploration activities.

- **Options**

With this button you access the **Activity Options** window (page 28).

## Assigning relations



In the Complex Associations, Identification and Exploration activities you must indicate the matching pair corresponding to each one of the cells in grid "A". In this grid you assign these relations.

### Grid "B" divisions

In Complex Associations you may have a different number of cells in grids "A" and "B". In the Exploration activities only one grid will be displayed, but the association is done with a virtual set that has a specific division.

In the Identification activities only two values can be assigned to the

	elements in grid "A": <b>yes</b> and <b>no</b> .
<b>Inverse resolution</b>	<p>Normally, an association is solved when all elements in "A" (except for those marked as "non assigned cell") have been matched with an element in "B". By activating this box, the correction process works differently: once all elements in B have been matched to an element in A, the activity will be solved.</p> <p>This option is especially useful for associations where the content of A is an image divided into area groups that share the same match in B (maps, graphics.).</p>
<b>Source and Target windows</b>	<p>In this area you can see the contents of each of the grids. To assign the matches you must select each one of the cells in window "A" (source) and mark its match on the right in "B" (target).</p> <p>Each of the elements in the source group must have only one matching element in the target group. The elements in the target set may not have a matching pair or be matched up with more than one element from the source group.</p>
<b>Non-assigned cell</b>	<p>You may also leave some cells in A without a match. This is especially useful when you want to associate two specific areas in two different graphics and you don't want to establish a relationship with the whole initial image.</p> <p>Non-assigned cells will be automatically solved without the user's intervention. This means they will be displayed with a grey background unless some kind of content has been selected for <b>Solved grid A</b> in the edit activity window. It is advisable to always activate the 'Solved grid A' field when creating activities with non-assigned cells.</p>
<b>Assign all to current selection</b>	<p>This button will match all cells in "A" (source) with the cell marked in "B" (target). You may want to use this function when you begin to determine the matches in an association with a lot of elements, most of which correspond to the same value.</p>

## Creating Wordsearches

To create or modify a word search you must set the following parameters:

- **Word search**

This is where you define the word search. You must distribute the words horizontally, vertically or diagonally and fill the blanks with asterisks: the programme will replace them with random letters. In the **Columns** and **Rows** boxes you must specify the size of the word search window.

- **Hidden words**

In this section you must specify the words that have been hidden in the window by writing a word in every line. If the option **Right grid** is active, the order of the hidden words must correspond to the cells in the associated text or image, from left to right and from top to bottom.

- **Right grid**

If this option is active, the words in the wordsearch will be associated to the fragments of an image or text. If you want to create a new text or image you must choose the NEW TEXT or NEW IMAGE option from the list.

With the **Edit contents** button you may activate Paintbrush or Notepad to create or modify the chosen text or image.

This is also where you choose the number of horizontal and vertical cells into which the image or text will be divided. The total amount of cells should equal the number of words hidden in the word search.

- **Messages**

You specify here the messages to be displayed at the beginning and end of the activity. You can also use here images, sounds, music and other multimedia resources as explained in *Import graphics, multimedia resources and special commands* below (page 24).

- **Fonts**

With this button you may select the font and colour to be used to represent the texts, as explained in page 24.

- **Options**

With this button you access the **Activity Options** window (page 28).

## Creating crosswords

To create or modify a crossword, the following parameters must be set:

- **Crossword**

This is where you define the crossword grid. Words must be distributed horizontally and vertically, marking the separating cells (blank) with asterisks.

In the **Lines** and **Columns** boxes you specify the size of the crossword grid.

- **Definitions**

In these two lists you write the across and down clues for the words in the crossword grid. The clues for every line or column must be written in one line. If you have more than one clue, you separate them with a semicolon (;). In the clues you may use images, sounds, music and other multimedia resources as explained in *Import graphics, multimedia resources and special commands* below.

There must be a clue for every word in the crossword, even for one-letter words. In every list there must be as many lines as the lines and columns you have specified for the crossword.

- **Messages**

You specify here the messages to be displayed at the beginning and end of the activity. You can also use here images, sounds, music and other multimedia resources as explained in *Import graphics, multimedia resources and special commands* below (page 24).



- **Font**

With this button you may choose the font type and colour you will use to represent the texts, as explained in page 24.

- **Options**

With this button you access the **Activity Options** window (page 28).

## Creating text activities

The following are the elements that intervene in the creation and modification of text activities:

- **Type of activity**

In this area you select the kind of text activity to be carried out. The different types of text activities in Clic are:

**Fill in blanks, Complete text, Identify letters, Identify words, Order words and Order paragraphs.**

The **Fill in blanks** mode has the wider variety of options (floating help windows, different kinds of targets, continuous evaluation).

There are two ways of working with **Order words**: shuffling the words in the same paragraph or shuffling them amongst different paragraphs.

- **Target tool**



In all activities there is usually a piece of static text and some objects (words, letters, paragraphs) that the user may fill in, modify, select or move when carrying out the activity. With the target tool you can mark the parts in the text that the user will manipulate.

In the **fill in blanks** and **complete text** activities, you must select a text block before clicking on the target tool button. In the other types of activity, the tool acts directly on the letter, word or paragraph where the cursor is (or on the selected block if there is one).

In **Fill in blanks**, the tool will open the **target definition** window (page 19), where you specify the different variables to be taken into account. In the other activities, the blocks marked as target work as follows:

**Complete text:** The targets are the words, letters, spaces or punctuation marks that will disappear when you begin the activity. To solve the activity, the user must replace these missing elements.

**Identify letters:** The targets are the letters that the user must click on to solve the activity.

**Identify words:** It works like the previous activity, only it is now done with whole words.

**Order words:** The targets are the words that will be shuffled while the rest of the text remains in its place. You can decide whether to shuffle the words within the same paragraph or amongst different paragraphs.

**Order paragraphs:** The paragraphs marked as targets will be shuffled amongst each other at the beginning of the activity.

In all these modalities the tool acts as a commuter: it marks clean blocks as targets and unmark those that had been previously defined as targets.

- **Cell tool**



You can create cells with text, graphs, multimedia resources and special commands and place them within the text of the activity.

With the cell tool you can create new containers and access the **Cell definition** window (page 21), where you can specify contents and properties.

The new containers will always be placed where the cursor is. You can delete a container by pressing DEL, just as you would do with a text character.

- **Cut, copy and paste**



These buttons are very similar to those in text editors: they cut the marked block (saving a copy in the memory), copy the block to the memory and paste the contents of the memory where the cursor is.

With these tools you may import text from other programmes to Clic (for instance, use a text in a different format to prepare an activity) and the other way around.

The blocks marked as targets will lose their target status when copied, cut and pasted. They will also lose the styles used with other text editors (bold, italics, underlined...).

You may also use the keyboard to cut (**[Control]+X**), copy (**[Control]+C** or **[Control]+Ins**) and paste (**[Control]+V** or **[Shift]+ Ins**).

- **Automatic generation of targets**



With this button you will access the **automatic generation of targets** window (page 21), where you can specify targets for exercises where it would take too long to mark elements one by one. It is especially useful for activities such as “identify all definite articles in a text” or “replace all vowels”.

- **Correction options**



With this button you access the **Correction Options** window (page 22), where you specify the mechanics and criteria the programme will follow to correct the activity and how it will show the user the possible mistakes.

- **Tab width**

Tabs are especially useful to format exercises where information is presented in tables or columns and in any cases where you need to mark distances between text blocks. The unit used to measure the tab width equals a blank space of the same font type and size specified for the text block.

- **Messages**

You specify here the messages to be displayed at the beginning and end of the activity. You can also use images, sounds, music and other multimedia resources here, as explained in *Import graphics, multimedia resources and special commands* below (page 24).

- **Fonts**

With this button you may choose the font type and colour you will use to represent the texts, as explained on page 24.

- **Options**

With this button you access the **Activity Options** window (page 28).

## Defining targets in text activities



When you edit **fill in blanks** text activities, you can specify the following characteristics for each one of the targets:

### **Correct answer**

You must write the correct solution for the target here. If more than one answer is possible, you must separate the answers with the character | (the vertical slash you get when pressing [AltGr]+1). For example, the text **bicycle|bike|velocipede|cycle** will have the programme accept any of these words as the correct answer.

As for case, punctuation signs and spaces, you will have to specify these in activity correction options.

### **Presenting options in a list**

Targets in **fill in blanks** activities may also be presented as a list of options from which the user must select one. The correct answer must be within the options in the list, otherwise it would be impossible to solve the activity.

When the targets are presented in an option list, there is not a “letter by letter” correction and the fields *Maximum amount of characters*, *Initial answer space* and *Fill in character*, are not taken into account, since these parameters are only used with written answer targets.

### **Maximum amount of characters**

This is where you specify the maximum amount of characters the user may write in the blank. This number should equal or be higher than the length of one of the expressions specified in the *correct answer* field.

In the correction options you can specify whether to move on automatically to the next target when the user has typed the maximum amount of characters or whether you must hit [Enter] to validate the answer.

### **Initial blank**

This parameter allows you to control what the ‘blank’ will look like at the beginning of the activity. The system default will show as

many *filling characters* as there are letters in the right answer, thus giving the user a visual clue about the length of the expression to write. However, you may decide to have only one space or make the initial blank bigger than the correct answer.

**Filling character**

You specify here the character you will use to indicate the blank at the beginning of the activity, as long as there is not an *Initial text* or when the *Initial text* is shorter than the *Initial blank*. The system default will use the underscore, but you may also use a blank space, a dot, an asterisk or any other character.

**Initial text**

Usually the blanks are empty and represented by *filling characters*, but you may decide to present an initial text that the user has to complete or correct.

**Information window**

With all kind of targets you can display a floating window containing extra information, clues or messages that will help the user solve the target. In these windows you may insert text, graphs, multimedia resources and special commands by writing the expression surrounding it by brackets.

When selecting the font type for the activity you also select the font and background colour and the font size and type to be used in the information windows.

With the **only interpret** box you can play a sound or music without having the window displayed on the screen. With this option you may insert specific sound help for each one of the targets in the activity or may have sound warnings when the user types the wrong answer.

You may activate information windows on three different occasions:

- **Automatically**, by placing the cursor in the blank.
- When the user types and enters a **wrong answer**.
- By pressing **F1**.

In all cases you may decide to set a **pop up delay** (expressed in seconds) and a **maximum display time** for the window to be on screen.

## Automatic target creation



The creation of targets for some text activities may be rendered easier as long as the targets share common characteristics than can be identified by the programme.

You can automatically turn “normal text” into a “target” in two different ways:

- **All expressions exactly like...**

Finds the text you complete the expression with and turns it into a target. For instance, if you complete the expression with the word “**the**”, the following targets will appear in the text:

*The doors of **the** cathedral were forged in **the** Middle Ages.*

Note that the first “The” is not marked, since the automatic generation of targets will always match the case of the activity text and the text you have completed the expression with.

If you don’t want to mark as target the “the” in the word “cathedral” you have to tick “**Whole words only**”.

- **All words containing the expression...**

In this case you mark whole words as long as they contain the given text. For instance, if you activate this option with the text “**s**”, there will be three targets in this sentence:

*The **bus** stops in front of your **house**.*

In some exercises you may have to use the automatic generation of targets twice. For instance, if you want the user to write in either **A** or **E**, you will have to first turn all the **As** into targets and then again for all the **Es**.

## Cell definition



In text activities you may insert cells with texts, graphs, multimedia resources and special commands.

The cell definition window is used to indicate the **width**, **height** and **alignment** of the text (left or centre) and whether a frame should surround it.

In the **Fonts** window of the activity you select the font size and type and the background and foreground colours to be used in the cells.

Cells will act as characters inserted in the text and will modify the height of the line they are in. To delete a cell you may use [Del] and [Back] keys, just as you would with any other text character.

Cells may never be part of a target.

## Correction options



There are a number of parameters that you can specify in text activities as to the correction of the exercises:

**Match case** In this box you specify whether the case of the selected or written text should match that of the correct answer given when defining the targets.

**Accents and special characters** You can also determine whether differences in the use of special characters such as *umlauts*, *accents*, *etc.*, between the user's text and the correct answer should be counted.

**Punctuation marks** This parameter controls whether or not to take into account punctuation signs (., ; :) when correcting the activity.

**Allow repeated spaces** By ticking this box, the number of spaces that separate words will not be taken into account when correcting the activity.

**Correct at every attempt** In **Fill in blanks** activities there are two possible ways to correct the user's answers: correct each answer immediately after it has been entered ('correct at every attempt') or correct the whole activity once the user decides the exercise is finished and clicks the correction button. When you activate correction at every attempt, Clic counts an attempt every time you give an answer to a target, whereas in the global correction there are as many attempts as times you click the correction button.

**Move on to next target when filled in** In the **Fill in blanks** mode, the user must enter each answer and/or move the cursor on to the next target before the programme corrects it. You may enter the answer by pressing the [Enter] key, using the arrow keys or by clicking the mouse on a different target.

If you activate this box, the programme will not expect the user to enter the answers; it will consider them entered once the maximum amount of characters indicated in the target generation window has been typed.

**Move on only after correct guess** When you activate **correct at every attempt** you may also activate this option, which will not allow the user to move on to the next target unless the target s/he is at has been solved.

**Correction button** The correction button is displayed at the bottom of the text activity window (unless the **correct at every attempt** option is active) and it is used to tell the programme that the exercise has been solved and it can now be corrected.

You may include a short text inside the button and you may also render it inactive.

If the button is not active, the programme cannot correct the

activity, therefore, it is advisable to uncheck the “include in report” checkbox in the **activity options** so that it doesn’t later appear with zero attempts and zero correct guesses.

### Indicate mistakes letter by letter

You may correct the answers **as a whole** (just indicating whether it is a correct answer or not) or **letter by letter**.

When correcting “letter by letter”, the programme compares the user’s answer to the closest possible answer and tries to identify any missing, extra or wrong characters.

The algorithm used to do this comparison is quite complex: when a difference is found between the two expressions one text is shifted in relation to the other until a significant number of coincidences is found, so then it may go on comparing with the maximum amount of guesses. Every movement of an expression in relation to the other is called a **step**. The amount of characters placed before and after the character that caused the mistake compared at every step is the **exploration field**. It is advisable not to change the default values for these fields unless the correction “letter by letter” is unable to identify the most common mistakes the students make.

### Display before starting...

Before you begin a text activity you may display a screen with information, clues or instructions that will help the user to carry out the activity.

You may limit the **maximum time** the information window is displayed or it may be there indefinitely by setting the counter to 0. The exercise will begin when the specified length of time is over or when the user clicks on the information window.

This information screen may include the **original text** of the exercise (displaying all the solutions and in the correct order) or an **alternative text** with instructions and comments.

All Clic activities include an initial and a final message. In this case you may also specify a **previous message** that will be displayed underneath the information screen as long as it is visible. As with other messages, you may import graphs, multimedia resources and special commands.

The previous screen will display the colours, font type and style specified for the **information windows**.

## Choosing the font type



In this window you specify the font type and size, the style and colour of the characters you are going to use in the text cells.

It is advisable to use the basic Windows fonts, preferably *TrueType* ones. It is not recommended to use the printer's fonts, since they may take on a different appearance on computers which don't have them installed.

If the font size chosen is too big, some of the texts may not fit in their cells. The programme will then reduce them to fit. The reduction of font size will affect all cells in the grid affected by this problem.

As for colours, you may choose different ones for the **text**, **background** and **shade**. The colour you have specified for the shade will also be used to represent the text in the solved cells in associations giving solutions to grid A.

These attributes may be different for each one of the three areas: **Grid A**, **Grid B** and **Message Box**. Specify at the bottom of the window the area where you want to apply the changes made.

There are four different areas in text activities: **Main text**, **Text in cells**, **Help windows** and **Message box**. You may choose different colour combinations for the first one of these areas: one colour for the text Clic presents initially, one for the text written by the user and another one to mark the mistakes found when correcting the activity. These colours should contrast with each other.

The **Apply current style to all areas** button will apply the same font type and colours to all areas.

You may also specify different background colours for the main window and the game area in the activity options.

## Import graphics, multimedia resources and other special commands

Text cells can include references to graph files, music, sound recordings and other multimedia resources. To import one of these files to a cell you must write the file name within brackets: { and }. For instance, a cell the content of which is **{xxx.bmp}** will display the xxx image instead of text. You may import these files to any text boxes: cells, initial and final messages, crossword clues, etc.

You may also refer to other Clic activities or packs, execute external programmes and create cells where the user may record and listen to his/her own voice, as explained at the end of this chapter.

When referring to BMP graph files it is advisable to use small images so that they will fit into the space reserved for text cells.

If you don't specify a drive or a directory, the programme will assume that the file you are referring to is in the same location as the activity calling it. You may also indicate absolute MS-DOS paths, with a special characteristic if the drive name is **CDR**: you must look for the files in the first CD-ROM drive in the system. For instance, the expression **{car.bmp}** means it must display the *car.bmp* file that is in the same directory as the activity. The expression **{c:\graphics\car.bmp}** means the file is in the *c:\graphics* directory, and the expression **{cdr:\graphics\vehicles\car.bmp}** indicates the file is in the *\graphics\vehicles* directory in the first CD-ROM drive in the computer. If there is not a CD-ROM drive or you don't have the correct



disk inserted in it, an error will occur. You will find a more detailed explanation of these concepts under 'File Organisation'.

The extensions to be used for file names are **.BMP** for graphs, **.WAV** for recorded sounds and **.MID** for MIDI musical compositions. You may also use any other extension accepted by the Windows multimedia system, such as **.AVI** or **.MOV** (for digital video), **.FLI** (for animations), etc.

Activities using imported sound or music files can only be properly run in computers with sound cards or MIDI synthesisers. For more information on the use of multimedia resources, please refer to the Windows manual.



This icon will be displayed in the cells that only include an imported **.WAV** recorded sound file. These files can be created with the 'Sound Recorder' programme.

Besides the name of the WAV file, you may also indicate the initial and final positions of the fragment you want to listen to when activating the cell. These positions must be indicated in milliseconds and must be written after the words **from** and/or **to**. For instance, with the expression **{dict.wav from 5000 to 8000}** you will listen to a fragment of the dict.wav file extending between seconds 5 and 8.

If you omit one of the two parameters, the programme will play the fragment from the beginning or until the end. For example, **{dict.wav from 9000}** will play the sound file from second 9 (until the end) and **{dict.wav to 3000}** will play only the first three seconds.



This icon will be displayed in those cells where the user may record his or her own voice with a microphone connected to the sound card. Clic allows you to record up to 10 different sounds in each activity, identified by the code **rec0**, **rec1**, **rec2**... up to **rec9**. Each one of these codes refers to a "virtual tape" that Clic stores in its memory. After the code for each sound to be recorded, you may write a number to indicate the time limit of the recording, expressed in seconds. If you don't specify a different value, the system will use its default, which is 5 seconds.

For instance, a cell with the expression **{rec2 8}** will allow the user to record his voice for 8 seconds. This sound will be saved in virtual tape number 2. During the recording, a microphone will be displayed at the mouse pointer.

Sound recording has been specially designed as an asset for language activities, to allow comparison between correct sound patterns (that can be shown in cells referring to WAV files) and the user's pronunciation. You can listen to recorded sounds by means of the **{recX play}** code, described below, but you cannot record them on the disk.



Sound recording cells should always be used together with cells where you can listen to the result and, optionally, compare it to the original pattern.

This is the icon displayed in cells where you can listen to the contents of the virtual tapes recorded as explained above. To listen to each one of the virtual tapes you must write its code followed by the word **play**. For example, with the expression **{rec2 play}** you would listen to the contents of virtual tape number two.

At the beginning of the activity all the virtual tapes are empty. If the user tries to listen to a sound that has not yet been recorded, an error message will occur. The **{recX play}** cells should only be used in combination with **{recX}** cells with

the same code.



This is the icon shown in cells with an imported **.MID** music file. You can create these files with any sequencer or music editor, like MusicTime, Encore, Finale...

As with WAV digital sound files, you may also specify here the fragment to be played with the words **from** and **to**. In this case, however, you don't use milliseconds as a unit but the number of sixteenth notes counting from the beginning of the melody. For example, for a song written in 3/4 time, the expression **{vals.mid from 64 to 128}** would only play the 3<sup>rd</sup> and 4<sup>th</sup> bars of the score.



This icon is displayed in cells that only contain a reference to a CD-Audio, which will be played on activation. To refer to a fragment in a music compact disc (or CD-Audio) you use the **{track:minute:second}** format. For instance, the expression **{02:00:15}** indicates that the CD must begin playing at 15" after the beginning of the second track.

Optionally, you may use the word **to** indicate when to stop playing. For example, the expression **{02:00:15 to 02:00:20}** indicates you will listen to 5 seconds in the second track of the CD beginning from second 15.



This icon is displayed in cells that only import other types of multimedia resources, such as **.AVI** digital video files or **.FLI** animations.

When playing digital video files the image will be aligned in the top left corner of the cell that contains them. To control the exact placement and the size of the video window you may also specify two additional instructions:

- The expression **{stretch}** indicates that the video image has to be stretched or compressed to fit the cell.
- The expression **{free}** indicates that the video window must be in the centre of the screen with its original size.

For instance, a cell with the text **{horse.avi}** will display the **horse.avi** video sequence in its original size and aligned in the top left corner of the cell containing it. If the expression was **{horse.avi}{stretch}** it would fit the cell, and if it was **{horse.avi}{free}** it would be in the centre of the screen.

Another way to adjust the placement of the video window is to include within the main expression the text **pos** followed by three numeric parameters: horizontal offset, vertical offset and a third figure to indicate where to measure the offset from. This last figure must be a **0** if the offset takes place within the cell, a **1** if it is within the game window and a **2** if the offset is measured from the top left corner of the Clic's main window. For example, the expression **{horse.avi pos 15 20 2}** will display the video 15 points to the right and 20 points to the bottom, measured from Clic's main window top left corner. The expression **{horse.avi pos 10 10 0}** would move the video 10 points in each direction within the cell from which you called it.

You can also indicate the length of the fragment to be played for digital video files by using the words **from** and **to**. The lengths are indicated in milliseconds, just as in digital sound files.



This icon is displayed in cells that import other Clic packs or activities. When a user activates a cell with one of these references the activity he is working on will immediately be put on hold and the programme will run the activity indicated in the cell. For instance, if you write **{words.pac}** as the text for a cell the

programme will run the activity pack "words" when the user clicks on the cell.

This kind of reference is especially useful when generating information screens, which can be used as a selection menu with different activities or packs.



You can also call up other programmes that can be run from Clic, when this icon will be displayed (unless an alternative graphic content is indicated). For example, the expression **{calc.exe}** will run Windows calculator when you click on the cell.

The names of the applicable files may be followed by parameters, for example **{pbrush.exe drawing.bmp}**. This will activate PaintBrush with the image "drawing.bmp".

Clic is not responsible for closing the external programmes that have been opened by using these instructions in the cells. This function should be used with care, to avoid filling the screen with overlapping windows.



The cells or message boxes containing the expression **{exit}** will end Clic without asking the user. You have to be careful when using it since you may lose all changes if you are editing an activity.

## File organisation

All files related to an activity or an activity pack must be in the same drive and directory. The working directory (the one you use when creating new activities or packs) may be changed from the **Global Options** window.

You can create new activities or packs and save them in different directories, but it is advisable to save all the materials used (texts and images) in the directory where the activity is saved.

The images, sounds, music and other multimedia resources may be located in different drives and units. In this case, you must specify the complete access path so that the programme can use them. You may refer to the first CD-ROM drive installed in the system with the expression **CDR:**

You may also use the expression **CLIC:** to indicate the drive and directory where the programme is, independently of where the activity is located. For instance, if in a text file you write:

```
{lion.bmp}
{c:\sounds\groar.wav}
{cdr:\video\zoo.avi}
{clic:act\demollion.puz}
```

The programme will use the image LION.BMP, which should be in the same directory as the activity, the file GROAR.WAV, which should be in the SOUNDS directory in drive C: and the video ZOO.AVI, which should be in the VIDEO directory in the first CD-ROM installed in the system. The last example refers to activity LION.BMP located in Clic's directory of examples.

Specifying different paths for multimedia resources may cause problems if the activities you have created are moved to a computer with a different drive configuration. Therefore, it is advisable to use the expression **cdr:** when referring to a CD-ROM drive and you may also use directories related to the placement of the activity file, as for example the expression **..\..\sounds\groar.wav**, or better **\sounds\groar.wav** to refer to the aforementioned file.

To automatically activate a pack it is advisable to create an icon that will call up Clic by means of parameters, as explained in page 37 below.

## Activity options

The different elements in the activity options dialog are:

- **Cell size**

Here you can modify the initial size of Clic's text cells. The new sizes you enter here may be modified by the programme if it needs to resize the screen to fit all the elements (graphs and texts) of a given activity. Cell sizes are saved as data associated to each activity. When the activity is an association you may specify different sizes for grids A and B.

- **File info**

Here you may write a short description of the activity that will be displayed in the window you use to load the activities or packs.

- **Buttons and counters**

This is where you decide whether or not to display the different buttons and counters for the activity you are editing. It is advisable not to display the help button in activities that include imported files in Grid B, since the help window would only display the file's name rather than its content. There are three different templates available for buttons:

- **Big buttons:** displays buttons with grey background and shaded frame
- **Small buttons 1:** displays the same images without a background or a frame
- **Small buttons 2:** are lineal designs that use the text colour specified for the message box in the Fonts dialog box.

The option you select for buttons and counter will be saved as associated data for the activity.

In the 'edit activity packs' you may also specify whether or not to display certain buttons. In case of conflicting versions, a button will only be displayed if it has been specified both in the activity and the pack.

You may also decide to place the buttons horizontally on the top part of the screen.

A little more horizontal space will be available for the activity window when the buttons are on the top part of the screen, when they are hidden or when there is only one visible.

- **Colours, shades and frames**

Here you specify the colours or shades to be used as background for both the main and the game windows. You may also uncheck the **Shaded frames** box if the lines around the different areas don't match the selected colours.

For the game window you may activate the option **transparent background** and the background colour, shade or image selected for the main window will prevail.

In the dialog box where you select the font type (page 24) you may also decide to specify different colours for the activity window and the message box.

- **Background image**

You may select a background image from this drop-down list for the main window. This image must always be a bitmap and may either be a big graphic centred in the available space or a small image that will be repeated in tiles to fill up the window. It is advisable to activate **transparent background** and not to select **Shaded frames** when using background images.

- **Placement of game window**

This option has been designed basically to adjust the game window within a background image. The specified co-ordinates may have two different meanings, depending on what you have selected as background for the main window:

- If the main window background consists of a centred image, the co-ordinates' origin is in the top left corner of the background image.
- If there is not a background image for the main window or it is tiled, the co-ordinates' origin is in the top left corner of Clic' s main window.

In both cases, X indicates a horizontal offset to the left and Y a downward offset.

- **Copy style**

With this button you may apply certain basic characteristics from a previously saved activity to the activity you are editing. These features refer to background colours, images, placements and shades, font type and colour, button and counter type and cell size.

- **Activity automation**

If an activity automation programme (special files with the extension .DLL) is found in the activity directory, then this option can be activated, choosing the file that will update the real content of the activity every time it is run. Touching the **Configuration** button will show the dialog box that incorporates the automatic generation programme.

In the Clic demonstration pack there are two activities that use activity automation to create mental arithmetic's operations: PUZ05.PUZ y ASS07.ASS. Note that their contents change every time the green flag is pressed. You can see how they were made by activating the menu **Options | Activity Options** and pressing the **Configuration button**.

The **ARITH2 programme** is one such activity automation module. For a detailed description of how it works, see page 45.

- **Include in user reports**

This option lets you decide if a determined activity should be registered or not in the activity reports database. Clic automatically deactivates this option for the exploration activities and the information screens, but it may also be convenient to uncheck it when the activity is an options menu or its evaluation is not considered to be important.

- **Information button**

This section enables you to add an additional information button to the activities. This button can be used to activate any other application or programme. You can use different strategies to implement this option in an activity:

***Direct access to an executable file***

To access an executable file from the information button you have to indicate the name of the programme, which must have the extension .EXE, .COM, .PIF, or .BAT in the field **File**.

For example, if you write **CALC.EXE**, the information button will run the Windows calculator.

#### ***Accessing a document registered by the File Manager***

If you indicate the name of a document in the field **File**, and it has an extension registered by the file manager, the information button will activate the programme that has been generated, automatically loading the document. For example, if you indicate **WORLD.WRI** the information button will run the text processor **Write** with this file loaded.

#### ***Accessing an executable programme with parameters***

You can also use the option *Direct access to an executable file* by highlighting an additional parameter in the **Topic/Arguments** field. For example, if in the **File** field you write **EDIT.COM** and in the **Topic/Arguments** field you write **SEE.ME** the information button will activate the MS-DOS text editor, automatically loading the document.

#### ***Accessing a Windows help file***

To use this function you have to write the name of a windows help document (files with the extension **.HLP**) in the **File** field and indicate in the **Topic/Arguments** field a description of the subject that you wish to appear in the screen when the help button is activated.

- **Normal values**

This button returns all the options to the values indicated in the CLIC.INI file.

## **Saving an activity or pack**

To save the activity or pack that has been created or modified you have to select the unit or directory in which it should be saved and give a name to the file.

This option is only available if you have activated the parameter **editable=yes** in the CLIC.INI file.

All the material related to the file to be saved (activities, texts, images, sounds, music and other multimedia resources) must be located in the same unit and directory so that CLIC can find them.

## Other functions of the programme

### Print



The **File | Print** menu option enables you to get a paper copy of the activity exactly as you can see it on the screen at that moment.

In the **Activity options** (page 32) there is the possibility of having a button on the screen that will give direct access to this option.

The options that can be specified in the print window are:

**configure** Allows you to choose the unit you wish to print from, the orientation and size of the paper and other parameters pertaining to each printer.

**elements** In this section you choose the elements to appear in print: A line of text with the name of the activity file (and of the pack, if it is part of one), the graphics and background colours (white by default), the counters, buttons and a frame around the image.

**size** Initially the programme will give the image the maximum size that the paper configured in the printer will permit. This maximum size may vary according to the elements selected and the orientation of the image on the paper: In the majority of activities you get a bigger image by selecting the horizontal orientation.

Adjusting the scale you can reduce the dimensions which the image will finally have on paper.

**placement** The programme will adjust by default the image in the upper left corner of the printing area. By activating the placement boxes you can centre the image vertically or horizontally on the sheet of paper.

In some Windows 95 print drivers a problem has arisen in the printing of certain images, which appear upside down. Changing the parameter **printerBug** from the CLIC.INI (page 34) file can solve this problem.

## Global options

The elements of the global options window are:

- **Shuffle**

In this section you can specify the number of times that the contents of the grids will be shuffled. It might be interesting to reduce it in order to simplify the resolution of puzzles of the **Hole** type. By activating the **Immediate shuffle** option the cells will be instantly mixed, and the effect of dynamic shuffling on the screen will be eliminated. Activating this option is only recommended if you are using a very slow computer.

- **Automatic cursor**

This section indicates whether the automatic cursor option should be activated, and what delay (expressed in seconds) should be maintained between each jump of the cursor.

- **Working directory**

This section allows you to change the unit and the working directory, which is what we use to create new activities and packs.

- **Text and graphics editors**

This is where you can indicate the text and graphics editors that will be activated by pressing the **EDIT CONTENTS** button from the activity edition windows. The default options correspond to the Windows Notepad (notepad.exe), and to the Paintbrush graphic editor (pbrush.exe). If you're working with GIF graphics you should choose another type of editor capable of opening them, for example PaintShop Pro, as Paintbrush cannot work in this format.

- **Reports**

In this section you indicate to the programme whether it's necessary to register the user's activity in the activity reports database, as well as the name and location of this database. In the case of computers connected through a network, it's recommended to keep the database in a file in the server, where the different stations having rights to write.

To consult and keep the database up to date (new users, modifications, users and groups dropping out) you're recommended to use the auxiliary programme **ClicDB** (page 46). In this section you can also give the students the chance to create new users and groups in the window used by the report manager to identify them at the beginning of every session. It's also possible to check whether the students can access their own reports through the **Current user reports** menu.

- **Help with help**

In the activity help windows there is usually a button with a question mark, which runs Clic's main help document. In some case it may be useful to deactivate this button so that the smaller students don't accidentally activate the help document. Upon unchecking this box, the only button that will be shown in the help windows is the door, which is used for exiting.

- **Menu bar**

Deactivating this box will deactivate the menu bar the next time that Clic is run using a direct access icon to an activity pack. To see the menus again you have to run that programme using the "Clic 3.0" icon in Windows.



Modifying this option doesn't mean the immediate disappearance of the menu bar: its effect will be noticed the next time you activate an icon for any Clic activity pack.

Accessing Clic with parameters can also control the appearance of the menu bar.

- **Confirm exit**

This box controls whether it's necessary to show the "are you sure you want to quit?" message. If left unmarked, the door button will close the programme without asking any questions.

The cells that contain the command **{exit}** always close Clic without asking.

- **Drag cells**

Deactivating this option means that all puzzles will use thread. With this option activated, you have to drag the cells to their destination in the **Swap** and **Double** puzzle modes.

- **Sound warnings**

This option allows you to activate or deactivate the sound warnings that the programme uses.

- **Big cursor**

With this option you can make the mouse pointer bigger than normal.

- **Thickness of the thread**

Here you can adjust the thickness of the thread that appears in the activities where you have to relate elements.

- **Normal values**

This button resets values to those specified as normal in the CLIC.INI file.

Unlike the activity options and the pack characteristics, which are saved in their respective files, the global options affect the specific working of the programme in each computer and are recorded in the CLIC.INI file. When confirming this screen, the programme will ask if you want to save the changes in order to use them in the next work sessions. If you respond in the negative, the modifications will only take effect in the current session.

## Automatic cursor

The automatic cursor function enables you to carry out activities without using the mouse. It is especially designed to make the programme easier to use by people with motor disabilities.

To activate this function, you have to access the **Global options** window.

When the automatic cursor is activated, the mouse pointer jumps between the different cells in the grids. The equivalent action to clicking can be achieved in various ways:

- Touching the space bar, the return key or any letter of the keyboard.
- Pressing the left mouse button.

If the activity has two grids, the cursor will jump automatically to the opposite grid in order to make the association.

The cursor jump speed can also be adjusted in the **Global options** window.

The mouse remains available at all times. The automatic cursor function will be activated when the delay time from the last mouse movement has been exceeded.

## The "CLIC.INI" file

The CLIC.INI file contains the specifications of the configuration parameters taken when the programme is started up. You can modify these parameters by using the Windows Notepad editor. To activate or deactivate the options you should use the commands **yes** and **not**. The changes will not be registered until you restart the programme.

Another way of modifying some of these parameters is by opening the **Global options** window, making the required changes and, when the programme asks, confirming that you want to save the changes in order to use them in the next sessions.

The parameters written in the CLIC.INI file are:

<b>directory</b>	The full name of the path where the activities, packs and associated material (texts and images) are found. Usually it is C:\CLIC\ACT. This directory can later be changed by accessing the <b>Global Options</b> window.
<b>shuffle</b>	The number of times that the activities are shuffled, as explained in the section <b>Global options</b> . Normally they are shuffled 30 times.
<b>fast</b>	Activates or deactivates the <b>Immediate shuffle</b> option, as explained in the Global options section. This option is normally deactivated.
<b>editable</b>	Determines whether the programme should allow new activities to be created, modified or saved. It is recommended to deactivate this option (indicating <b>editable=not</b> ) if you don't want users to modify the activities and packs that have been prepared.
<b>drag</b>	Activates or deactivates the <b>drag cells</b> option, as explained in the <b>Global options</b> section. Normally it is activated.
<b>sound</b>	Determines whether the programme should give sound warnings. Normally it is activated. Sound warnings are given when a mistake has been made and when an activity has finished.
<b>midi</b>	Specifies whether the programme will try to use the Windows MIDI mapper to execute the MIDI files linked to the activities. It is recommended to leave it deactivated only if you don't have the necessary multimedia equipment.
<b>wave</b>	Specifies whether the programme should try to use the Windows digital sound resources to run the sound files connected to the activities. It is recommended to leave it deactivated only if you don't have the necessary multimedia equipment.
<b>mci</b>	Specifies whether the programme should try to use other types of multimedia resources connected to the activities.
<b>maximize</b>	With this option activated the main window will be maximised automatically when the programme is run. Normally it is activated.
<b>editext</b>	Specifies the name of the programme to be used to edit text files. Usually this is NOTEPAD.EXE.
<b>edigraf</b>	Specifies the name of the programme to be used to edit BMP graphics. Usually this is PBRUSH.EXE, but if you want to work with images in GIF format you are recommended to use PaintShop Pro.

<b>report</b>	Indicates whether the programme should register activity reports in the database. This is normally deactivated.
<b>reportBase</b>	In this field you'll find the name and path to the database where the activity reports are stored. This indication will only take effect if the previous section is activated.
<b>allowNewUsr</b>	When the <b>report</b> variable is activated this parameter determines whether the students should be allowed to register as new users in the database from the identification window that appears at the beginning of each session.
<b>allowNewGrp</b>	The same as above, but restricting (or not) the creation of new groups in the database.
<b>autocursor</b>	This section indicates whether, on starting up the programme, the automatic cursor option should be activated.
<b>delaycursor</b>	If the previous option is activated, this section will decide the delay in seconds that has to be kept between the automatic cursor jumps.
<b>threadwidth</b>	Indicates the thickness of the thread used in activities where elements have to be related.
<b>bigcursor</b>	Indicates whether the big mouse pointer should be used by default.
<b>helpOnHelp</b>	Indicates whether the help on help button should be shown.
<b>menu</b>	Determines whether the menu bar should be shown.
<b>exitDirect</b>	Controls whether Clic should close down without showing the exit confirmation message.
<b>printerBug</b>	It has been noted that some printer drivers contain an error that in some situations shows images upside down. If when printing with Clic you see images upside down you have to change the parameters to show <b>yes</b> instead of <b>not</b> , which is the default value.
<b>testSystem</b>	This parameter indicates whether it's necessary to check that the monitor is correctly configured for those activities designed for 800x600 and/or 256 colours.

Accessing Clic with parameters may also change some of these values.

## Report database

Clic 3.0 lets you register in a database the results of the activities that the users have done. The file for this database usually bears the name CLICDB.MDB and can be consulted through the **ClicDB** utility (page 46), which is included in the programme.

In computers that are connected by a local network it is recommended to keep this file in a folder in the server, and to which all the stations have reading and writing access rights. In this way you can accumulate all the diverse information from the different users and groups in just one database, irrespective of the computer used in each session.

The database is formatted in Microsoft Access 1.1, but you are advised not to try to manipulate it directly from Access or any other programme, as this may alter its structure and leave it unusable for Clic. The **ClicDB** utility lets you carry out all the basic maintenance operations and obtain different statistical reports.

The report system is only active if the corresponding box in the global options is marked, and if a valid path has been indicated for the database. You are recommended to register all the

groups and users by using the **ClicDB** programme before using the report system, although in the **Global options** there is also the possibility for the students to register themselves through the identification window shown at the beginning of every session. It is also possible to decide whether the students can have access to consult their own reports by means of the **Current user reports** menu.

The groups and users can be identified in two different ways: by their name or by images (BMP or ICO files). This second option has been designed principally for students who still don't know how to read.

In the database there is always one generic user and group that acts as a joker and which may be used to try tests when the users' identity is not important.

The **CLICREP.EXE** programme acts as an intermediary between Clic and the database. The user should never activate this programme directly, and will only notice its presence by the occasional presence of an icon which appears when the combination ALT+TAB is used. It is essential that the CLICREP.EXE file be found in the same folder as the CLIC.EXE so that the report system will work correctly.

For more information about the report system consult the documentation of the **ClicDB** programme on page 49.

## User name

This window only appears when the **Register activity reports** field has been activated in the **Global options** (page 34).

The programme will ask you to identify yourself in order to register the results of the activities you do in the report database. You should choose the group that you belong to from the list on the left, and then your name from that on the right.

If it's your first time using the programme and your name doesn't appear you can use the **New user** button to register (unless it's been deactivated by the global options).

You can change user at any moment during a session by activating the option **New user** in the **Reports** menu.

## Activity report

The activity report shows statistical information about the activities done in a session. A new session begins when Clic is run, or when you use the menu option **Reports | Begin new session**.

The activity report consists of a table that shows for each activity:

- The name of the activity file
- The time (in seconds) that the user took for each activity
- The number of attempts made
- The number of correct answers given
- Whether the activity has been completed. The completed activities will be marked with an **X**.
- A numerical value for precision, which reflects the percentage of correct attempts out of the total number of actions necessary to finish the activity.

The activity report also shows the total number of activities done, the number successfully completed, total time used in the session and the average score obtained.

Exploration activities and information screens are not counted in the activity report.

If you activate the **Register activity reports** field in the global options, the Clic report database will be activated, thus permitting you to get the statistics on each user's results. To access the database information you must use the **ClicDB** programme (page 46) or activate the **Current user report** menu.

## Accessing Clic with parameters

This is the relation of parameters that can be optionally included in the command line for the shortcut icons that access the **CLIC.EXE** programme. The path and name of the file to which you are referring must substitute the expression *fileName*.

<b><i>fileName</i></b>	Path and name of the activity pack (PAC or PCC) or any Clic activity (ASS, PUZ, SOP, CRW o TXA) that you wish to run by activating the shortcut.
<b><i>fileName #</i></b>	The packs usually begin with the first activity, but it is also possible to start with any other by writing its numerical order after the pack name. For example, a shortcut icon with the command line:  C:\CLIC\CLIC.EXE C:\CLIC\GEO\GEO.PCC 3  Would run the GEO.PCC pack, starting from the third activity.
<b><i>/INI:fileName</i></b>	An alternative location of the CLIC.INI file in which the programme reads the global option values. If this parameter is not indicated, Clic will always look for the CLIC.INI file in the same unit and folder as that in which CLIC.EXE is found.
<b><i>/MENU</i></b>	Makes the menu bar appear, even though global options indicate that it shouldn't. The "Demo of Clic" icon uses this parameter to guarantee that you can always examine the contents of the sample activities.
<b><i>/NOMENU</i></b>	Prevents the appearance of the menu bar even though the contrary has been indicated in the global options.
<b><i>/DB:fileName</i></b>	An alternative location of the database in which Clic activity reports are registered. If this parameter is not used the programme will always try to access the database that is shown in the <b>reportBase</b> line of the CLIC.INI file.
<b><i>/USER:userId</i></b>	The numerical code of the user to whom the activity reports are assigned when the icon is activated. If it's not indicated, Clic will present the identification window before starting the activities. The user codes can be consulted by means of the <b>ClicDB</b> programme.

## Activity automation

Clic incorporates an access system to external programmes that enables it to generate the content of activities in a dynamic manner. These external programmes must be DLL files, and must meet the specifications indicated on the next page.

The activities included in the mental calculation examples use this system to generate different exercises each time they are run, by means of the **ARITH2** module (page 42).

When Clic loads an activity that uses the automatic generation system, it accesses the associated DLL in order to create the files (text or graphics) that will determine the content of the exercise. This access will be repeated every time the restart button (green flag) is activated.

The DLL that are written for use by CLIC should allow the configuration of their working parameters. To adjust these parameters you have to activate the **Configuration** button, which is to be found in the **Activity options** window.

To create an activity automation DLL you have to use a C or C++ language compiler.

## Specifications of the activity automation system

**This section of help is aimed at users familiar with Windows application programming in C or C++**

To create activities that use the activity automation system you have to write and compile a DLL file. The characteristics that these DLL programmes need to have in order to be recognised by CLIC are described below.

### Basic characteristics

The function of an automatic generation DLL is to fill the files that will determine the content of the activities, generally by a random process. The user can adjust the variables that control these random processes at the moment of creating or editing the activity.

An activity automation DLL must export four functions, named **RemakeAct**, **GetClicDIIVer**, **ConfigureDIIOptions** and **IsValidAct**, which will be explained in the section dedicated to functions.

### Workings of the system

When CLIC loads an activity that uses the activity automation system, it follows this process:

- It loads the DLL by accessing the API function of Windows **LoadLibrary**.
- It checks that the DLL is exporting the **GetClicDIIVer** function, and if it exists it is accessed.
- If the DLL hasn't been found, or **GetClicDIIVer** cannot be accessed, or the call to this function returns a posterior version of CLIC to that in use, an error message appears and the activity will be terminated.
- CLIC creates the files with the necessary content for carrying out the activities in the users' temporary directory. Initially these files are empty.
- **RemakeAct** is called so that the DLL will occupy itself with filling the content files according to the characteristics of the activity, reflected in a variable of the **ACTDATA** type, and from the automatic generation parameters that the user has adjusted, reflected in the **Ops** variable.
- The contents are loaded and the activity is started.
- If the user activates the "restart activity" button (green flag) **RemakeAct** will be accessed again.
- When the activity is finished, Clic will destroy the temporary files used.
- If the user edits the activity and activates the **Configuration** button in the options window of the activity, **ConfigureDIIOptions** will be called in order to modify the contents of the **Ops** variable.

## AUTOCLIC.H file

This file contains the declarations of all the variables, constants and functions necessary to programme a DLL which is reconciled with the automatic activity generation system:

```

/* -----
   AUTOCLIC.H
   ----- */
#ifdef __AUTOCLIC_H__
#define __AUTOCLIC_H__
#include <windows.h>
#define CLIC_DLL_VERSION 0x100
#if defined( __cplusplus )
extern "C" {
#endif /* __cplusplus */
enum PlayModes {NONE, PUZZLE, SCRAMBLES, ASSOCIATION, CROSSWORD};
enum PuzModes {EXCHANGE, HOLE, DOUBLE, MEMORY};
enum AssModes {NORMAL, SPECIAL, EXPLORE, INFO, IDENTIFY, WRITE};
enum GraPositions {AB, BA, AUB, BUA};
typedef struct tagActData
{ int clicVersion;
  LPINT actMode;
  LPINT actType;
  LPINT arrayPos;
  LPINT rows;
  LPINT columns;
  LPINT rows2;
  LPINT columns2;
  LPINT assignAss;
  LPINT ass;
  LPSTR initMessage;
  LPSTR endMessage;
  LPSTR tempFName[3];
  BOOL useTempFName[3];
} ACTDATA;
typedef ACTDATA FAR* LPACTDATA;
#define DLL_OPTIONS_SIZE 250
BOOL FAR PASCAL RemakeAct(LPSTR fileNameAct, LPACTDATA lpAct, LPSTR lpOps);
int FAR PASCAL GetClıcDllVer();
BOOL FAR PASCAL ConfigureDllOptions(HWND hOwner, LPACTDATA lpAct, LPSTR lpOps);
BOOL FAR PASCAL IsValidAct(HWND hOwner, LPACTDATA lpAct, BOOL showMsg);
#if defined( __cplusplus )
}
#endif /* __cplusplus */
#endif /* __AUTOCLIC_H__ */

```

## Variables

### ACTDATA

In a variable of the ACTDATA type the characteristics of the activity which is being executed are stored. This is a structure constituted by the fields:

<b>int clicVersion</b>	Version of CLIC which is being executed.
<b>LPINT actMode</b>	Pointer to the activity mode. Can be PUZZLE (1), WORDSEARCH (2), ASSOCIATION (3) or CROSSWORD (4).
<b>LPINT actType</b>	Pointer to the type of activity. If it's a PUZZLE it can be EXCHANGE (0), HOLE (1), PAIR (2) or MEMORY (3). If the activity is an association then it can be NORMAL (0), SPECIAL (1), EXPLORATION (2), INFO (3), IDENTIFICATION (4) or WRITE (5). Wordsearches and crosswords don't have different

types.

<b>LPINT arrayPos</b>	Pointer to the placement of the grids in an association activity. The grids can be found horizontally opposed: AB (0) and BA (1) or vertically: AUB (2) and BUA (3).
<b>LPINT rows</b>	Pointer to the number of rows in grid A.
<b>LPINT columns</b>	Pointer to the number of columns in grid B.
<b>LPINT rows2</b>	In the case of "non normal" associations, a pointer to the number of rows in grid B.
<b>LPINT columns2</b>	In the case of "non normal" associations, a pointer to the number of columns in grid B.
<b>LPINT assignAss</b>	Pointer to a Boolean variable which indicates whether the activity is using the specific relations assignation system.
<b>LPINT ass</b>	Pointer to an array of integers where, for "non normal" associations, the cell in grid B related to each of the cells in grid A is indicated.
<b>LPSTR initMessage</b>	Initial message text of the activity.
<b>LPSTR endMessage</b>	Final message text of the activity.
<b>LPSTR tempFName[3]</b>	Three pointers to the names of the temporary files in which the contents of the activity are stored. The first and the second are the content files for grids A and B, while the third is the solution file for grid A.
<b>BOOL useTempFName[3]</b>	Three Boolean variables which indicate whether CLIC should use each one of the three files mentioned above.

### Ops

This is a variable, of the STRING type, in which the DLL must store the parameters which will be used for the automatic generation of activities. It must finish in zero and can have a maximum length of 250 characters. As CLIC will store the contents of this variable in an ASCII file, the characters that form it must have a value superior or equal to 0x20, with the exception of the final terminator, which must always be zero. This variable will be passed as the LPSTR parameter to the **ConfigureDIIOptions** (so that the DLL can update its values) and **RemakeAct** functions.



## Functions

### **BOOL FAR PASCAL RemakeAct(LPSTR fileNameAct, LPACTDATA IpAct, LPSTR IpOps)**

This is the principal function of the DLL. Its objective is to fill the temporary content files according to the characteristics of the activity, indicated in **IpAct**, and the generation options fixed by the user, indicated in **IpOps**. The variable **fileNameAct** points to the name of the file that contains the activity, or is NULL if it still doesn't have a name.

### **int FAR PASCAL GetClicDIIVer()**

This function must always restore the value CLIC\_DLL\_VERSION (0x100), indicated in the AUTOCLIC.H. file.

### **BOOL FAR PASCAL ConfigureDIIOptions(HWND hOwner, LPACTDATA IpAct, LPSTR IpOps)**

Accessing this function permits the user to adjust the generation parameters contained in **IpOps**. It will also pass on the variables **IpAct**, with the characteristics of the activity, and **hOwner**, so that the configuration dialogue can be constructed. The modified values of **IpOps** will be stored with the activity and passed on to **RemakeAct** so they can be used.

### **BOOL FAR PASCAL IsValidAct(HWND hOwner, LPACTDATA IpAct, BOOL showMsg)**

This function evaluates whether the DLL supports an activity such as that indicated in **IpAct**. In a situation where the DLL doesn't support this type of activity and the **showMsg** variable is positive, the DLL will be responsible for showing the warning or error message. To show this message it may refer to the handle **hOwner**.

## The mental arithmetic activity automation module ARITH2



### Workings of the Arith2 module

Arith2 is a module of activity automation written for the Clic programme. Its function is to create the content files that Clic will use in the mental arithmetic activities. In these content files, arithmetical operations randomly generated according to the parameters indicated in the configuration dialogue are written.

The conditions that must be adjusted in order to generate the activities are:

<b>Type of operations:</b>	You can choose from the operations add, subtraction, multiplication and division, or any combination of them.
<b>Expressions:</b>	The unknown may be either one of the two operators, the result or even the operator. The operations can also be written backwards ( $C=A@B$ instead of $A@B=C$ ).
<b>Limits of the operators:</b>	To limit the group of possible operators you can choose between setting a higher limit and a lower one, or writing a closed list of values. Optionally, you can also determine the appearance of the numbers 0, 1 and -1.
<b>Number of decimals:</b>	Arith2 can generate operations with integer or rational numbers with a precision in decimals of up to hundredths.
<b>Conditions of the operators:</b>	Optionally you can choose one operator to be bigger than the other.
<b>Conditions of the result:</b>	The result can also be tailored to some limits. The number of decimals of the result is determined by the decimals of the operators. Once the group of operations has been generated, the programme can order them in the content files. This option is especially useful for creating puzzles and identification activities. In the addition and subtraction of integer numbers you can activate the "do not carry" option.

All of these parameters are explained in more detail in the section **Elements of the configuration dialogue** (page 44).

## How to create activities with Arith2

To create mental calculation activities that use the Arith2 module you can follow the steps below:

- Create a working directory, in which you will carry out the activities.
- Copy the ARITH2.DLL and ARITH2.HLP files located in CLIC\ACT\DEMO to the above directory.
- Run Clic.
- Use the menu option **File | New activity** to create an association.
- Set **Text** as the contents for grid A and choose any file from the list. If no text file is created, activate the **Edit contents** button. Create a new file, write any text in it (it will not appear in the activity) and save it under any name. For example, ANYTEXT.TXT.
- Choose the ANYTEXT.TXT file in all the content sections of the activity ("Grid A", "Grid B" and "Solved grid A").
- Adjust the number of cells, the messages, and the letter type as you would with any other Clic activity.
- Activate the **Options** button, and in the **Activity options** window (page 28) mark the **Activity automation** box. Choose the **arith2.dll** file from the list and press the **Configuration** button.
- Adjust the different configuration options of Arith2, and confirm the operations carried out.
- Check that the activity works and adjust it by using the **Options | Activity options** (Ctrl + O) and **Edit | Edit activity** (Ctrl + E) menus.

You can also create puzzles with Arith2. In this case you have to use some of the ordering options that the programme offers.

## Elements of the configuration dialogue

This is the window that appears when you select the **Arith2** module in the activity options and the **Configuration** button is activated:

The configuration dialog box for Arith2 includes the following elements:

- Operations:**
  - Plus
  - Minus
  - Multiply
  - Divide
- Unknown:**
  - A @ B = ?
  - A @ ? = C
  - ? @ B = C
  - A ? B = C
  - C = A @ B
- First operator:**
  - From  to  with  0  1  -1
  - One from the list:
- Second operator:**
  - From  to  with  0  1  -1
  - One from the list:
- Result:**
  - From  to
  - Do not carry
  - Random
  - Ascending
  - Descending
  - Avoid duplicates
- Decimals:**
  - # (integer)
  - #.#
  - #.##
- Conditions:**
  - Indifferent
  - A > B
  - A < B

The parameters that you can adjust in this window are:

- **Decimals**

This section determines the number of decimals that will be used when the operations are generated. The number of decimals that will appear in the result depends on that chosen for operators A and B.

- **Conditions**

In this section you can set the criterion that one operator be greater or lesser than the other is. If the criterion set in this section is contradicted by that indicated in the section on limits, null operations may be produced.

- **Null operations:**

When the conditions for randomly generating operations are excessively restrictive, it can lead to a great number of them having zero as a result, or the same result being repeated. In these cases it is recommended to open the restrictive conditions (limits, conditions and decimal numbers) to allow more varied results.

- **Order**

In this section you can determine that the operations are written in the content files in ascending or descending order, according to their result value. This function is useful for "puzzle" activities, which consist of ordering the elements of a single group and for identification activities, where the greater or lesser element has to be found.

- **Avoid duplicates**

If you have chosen a type of order for the operations, it may be useful to try and avoid producing duplicated results, in order to facilitate solving the activities. In spite of this, if the activity generation conditions are very restrictive, or if it's a case of causing null operations, it may lead to some duplicates being produced.

- **Limits of the result**

In this section you set the upper and lower limits which have to be considered for the results. If the limits indicated here are contradicted by the conditions set in the operators, null operations may occur.

- **"Do not carry"**

In the adding and subtracting of integer positive numbers, by activating this option the programme will try to generate operations where there is no "carrying" of tenths in any of the algorithm steps. This means that the one to one sum or difference of the digits will never be higher than nine or less than zero.

- **Operations**

In this section the operations that will intervene in the activity that is being generated are chosen. At least one operation must be chosen.

- **Unknown**

In this section you choose the placement of the unknown. This can be the result ( $A @ B = ?$ ), the first component ( $? @ B = C$ ), the second ( $A @ ? = C$ ), or also the operation ( $A ? B = C$ ). At least one of these options must be chosen.

- **Inverse expression**

Activating this box will present all the operations in the format  $C = A @ B$  instead of the usual format  $A @ B = C$ .

- **Limits of the operators**

In order to control the generation of the operators A and B you have to set a lower and higher limit. These limits may be found between -9999 and 9999. The first limit must always be inferior or equal to the second.

If you set excessively restrictive limits for the operators and/or the result, null or repeated operations may appear.

- **With 0, 1 o -1**

Optionally, the appearance of the numbers 0, 1 o -1 may be desired, although they are not found among the higher or lower limits. Each of these numbers has, in principle, a 10% chance of appearing in the random generation of operators, as well as that which they may have for being within the maximum and minimum limits.

- **One from the list**

An alternative way to set the numbers that will be used as operators is to activate this list and write the numbers that should appear, separated by the symbol ";" (semicolon). The numbers in the list must always be integers. Choosing this option means disabling the limits and the inclusion of 0, 1 and -1.

## The ClicDB utility



### What does the ClicDB programme do?

ClicDB is a complement of Clic that permits two basic functions:

- Maintaining the Clic report system: registering and unregistering users and groups, changing names, cleaning up data and compacting the database.
- Consulting the information stored in the database by means of different criteria: Groups, users, packs, activities and time periods. This information will be shown as graphics and lists.

The users of ClicDB are basically the administrators of the computer rooms and the teaching staff. Students may consult the results of work sessions directly from Clic, activating the **Reports | Current user report** menu, which will only show their report window without the possibility of accessing other functions of the programme. To avoid problems in administering the database in rooms connected on a network, it is recommended that the activating icon for ClicDB be kept only on the server, preferably in a zone of access exclusively for the teaching staff.

For greater security, ClicDB can be eliminated from all the computers except that of the network server. If you choose this possibility you will have to deactivate the parameter **Allow students look up reports** from the global options of Clic, to avoid error messages if the students try to access their data.

### Workings of the Clic report system

Clic 3.0 registers the users' activity reports in a database. This database is normally called CLICDB.MBD, and is usually found in the same folder as Clic (in computers not on a network), or in a network folder to which all the stations have writing rights. To understand how the CLICDB.MDB base works internally, you are recommended to consult the section *Structure of the database*.

In the **Options - Global Options** of Clic you can indicate the location of the CLICDB.MDB file, and other options such as authorising the students to create new users and groups or allowing them to consult their own reports.

The process that Clic uses to register reports is the following:

- If the report system is activated when Clic starts up, it will run an auxiliary programme called CLICREP.EXE. The function of this programme is to act as an intermediary between Clic and the database. The CLICREP.EXE file must always be found in the same folder as CLIC.EXE, and users must never try to activate or close it directly: Clic will always take charge of activating it when it is considered necessary. The presence of the CLICREP programme is only noted by the appearance of an icon when you use the combination ALT+TAB to pass from one programme to another.
- The first operation that Clic carries out is to call ClicRep to show the users' identification screen. The users have two options: Choose the group to which they belong and their name, or clicking on the **Cancel** button. In this case the connection between Clic and the database is interrupted, and they work without anything being registered in the report system.

There is also the possibility to let the users register directly from the identification screen, clicking on the **New user** button. This button can be deactivated from the **Global options** menu of Clic, as well as with the **New group** button that appears when a new user decides to register.

There is only one case in which the identification screen will not appear: when Clic has been activated with the parameter **/USER:XXX**, where XXX is the user code that will be used to register the session reports (these codes can be consulted in the **Maintenance of users and groups** screen). With this technique a personalised shortcut icon can be created for each user. For more information about accessing Clic with parameters consult page 37.

The **Reports - New user** menu of Clic allows you to activate anew the users' identification screen.

- Once the user has been identified, Clic creates a new entry in the **sessions** table of the database. Each registry of this table contains information about the user code and the date and time when the session was started. The current session can be interrupted and a new one started through the **Reports - Begin new session** menu of Clic.
- Each time that Clic loads an activity pack (PAC or PCC files) a new register is created in the **pacs** table of the database. This table contains information about the pack name and the session in which it was activated. If the user runs an independent activity that doesn't belong to any pack (ASS, PUZ, SOP, CRW and TXA files) then an entry in the **pacs** table is created, which shows a hyphen in the pack name.
- When the user finishes an activity, Clic registers the results in the **acts** table of the database. Each registry in this table contains the name of the activity, the code of the pack to which it belongs, the time taken (in seconds), the number of attempts made, the correct answers, global precision and a logic field which indicates whether the activity was completed or not.

The only activities that are never registered in the database are those of exploration, the information screens and all those that have the **Include in user reports** field unchecked in the **Activity options**.

When the system works on a network all these transactions are performed simultaneously in a single file (CLICDB.MDB) that contains the database. Each station blocks the base while the information is being written, and this can lead to a queue of pending operations, which slows down movement from one activity to the next. The speed in finishing the transactions depends on diverse factors: the capacity and speed of the network, the speed of each of the stations in finishing its work, access time to the server's hard disc, etc. The most critical moment can be when Clic is started up from different stations simultaneously. As in all group operations carried out on a single file, a slow machine can cause a queue that affects faster stations: There is only one 'desk' and everybody must wait their turn until the user who is occupying the server finishes his /her business.

## Structure of the database

The database where the Clic activity results are stored uses the Microsoft Access 1.1 engine. Although there are faster and more powerful alternatives for 32 bits, this format was chosen because Clic is an application that still works in computers with Windows 3.1 (16 bits).

Any version of Microsoft Access can be used to create other references or reports derived from the CLICDB.MDB base, always taking these observations into account:

- Never modify the CLICDB.MDB database. If you wish to create an alternative report manager you always have to begin with a blank database, save it with another name and connect it to the CLICDB.MDB tables. Microsoft Access help explains how to create connected tables. Any modification to the tables, links and references in CLICDB.MDB may prove fatal to the working of the system.
- Never use the **Convert database** function of MS-Access to save the CLICDB.MDB file in formats corresponding to versions later than 1.1, as Clic cannot access this data.
- Before doing any experiments, always make and save a security copy of the CLICDB.MDB file.

This is the internal structure of the CLICDB.MDB database:

TABLE	FIELD	TYPE	DESCRIPTION
<b>groups</b>	groupId	Autonumeric	Group code
	groupName	Text: 80 characters	Group name
	groupImg	Text: 200 characters	Name of graphic file (optional)
<b>users</b>	userId	Autonumeric	User code
	groupId	Long integer	Group code (link to "groups")
	userName	Text: 80 characters	User name
<b>sessions</b>	userId	Text: 200 characters	Name of graphic file (optional)
	sessionId	Autonumeric	Session code
	dateTime	Long integer Date/Time	User code (link to "users") Date and time of starting session
<b>pacs</b>	pacId	Autonumeric	Pack code
	sessionId	Long integer	Session code (link to "sessions")
	pacName	Text: 12 characters	Name of pack file
<b>acts</b>	actId	Autonumeric	Activity code
	pacId	Long integer	Pack code (link to "pacs")
	act	Text: 12 characters	Name of activity file
	tries	Integer	Attempts made
	placed	Integer	Correct answers obtained
	solved	Logic (Yes/No)	Activity completed
	precision	Byte	Global precision
time	Integer	Time taken (in seconds)	

Apart from these tables, the CLICDB.MDB file also contains some query definitions that are used by the **ClicDB** programme. These queries should never be erased or modified.

## Users and groups maintenance

This section of the programme allows you to carry out different operations relating to new users, dropouts and keeping the users' and group data clean.

Both the groups and users have a unique identification code that the programme assigns automatically, and which cannot be changed. The user will never get to see this code, but the system administrator may use it to create personalised icons that access Clic with the



parameter **/USER:###**. For more information about accessing Clic with parameters see page 37.

All users must belong to a group.

All groups and users must have a name to distinguish them from the others. There may be two users with the same name but in different groups, never in the same one. The maximum length of a group or user name is 80 characters.

Both Clic and ClicDB always show the group and user lists in alphabetical order. If you wish to change this order you may write a numerical expression in front of the names. For example, if in the database the groups are defined as "First", "Second", "Third", "Fourth", "Fifth", and "Sixth", then the alphabetical order will be as follows:

```
Fifth
First
Fourth
Second
Sixth
Third
```

To show the groups in their corresponding order you can write a digit before the names, such as:

```
01 - First
02 - Second
03 - Third
04 - Fourth
05 - Fifth
06 - Sixth
```

In the database there is a group and a user called ".Not identified". These registries cannot be eliminated and are designed to be used when carrying out tests with the report system without affecting the data of the other registered users. There is a full stop in front of the name so that they will always appear at the head of the list.

The groups and users can be identified by name or, optionally, by an image (BMP or ICO files: GIF are not accepted here) that will be shown in the list that Clic presents when starting the sessions. The maximum dimensions of these images are 68x68 pixels: if a bigger image is used the image will appear truncated. In the network configurations it is best that the images be stored in the server's shared folder.

The options available in the Maintenance of users and groups screen are as follows:

- **Properties**

Allows you to modify the name and image assigned to each of the users and groups. It also permits you to see the code assigned to each user.

- **Create a new user or group**

This button adds a new group to the base, or a new user within the selected group.

- **Clean data**

With this option you can eliminate the data of all the activities, packs and sessions from a determined period of time by the selected group or user. The programme will show a warning message and then a window where you can indicate the initial and final dates of the period to be cleaned.

The cleaning of group data means that the data of all its users will be erased.

You are recommended to compact the database after using any of its cleaning functions.

- **Delete**

This button will totally eliminate the selected group or user from the database. It will also eliminate all the sessions, packs and activities that this user or group has used.

The elimination of a group means the disappearance of all its users.

You are also recommended to compact the database after any elimination.

In network configurations you are recommended to perform all registrations, deregistrations and cleaning when there are no other stations using Clic. The elimination or cleaning of a user who is active at that moment will cause an error in the report system.

## Group reports

In this window all the sessions of the users in a determined group are grouped according to their dates.

The drop-down list that appears in the upper left of the screen allows you to choose the name of the group that the report will refer to.

Initially there will be a global report that includes all the activities of every pack that has been used at any time by each and every member of the group. The list **Data relative to...** allows you to limit the range of data to a determined pack. In the **Reports by activity and pack** window you can obtain more detailed information about the results of a group with regard to a particular pack.

The button **From... to...** leads to a window in which you can indicate the period of time contemplated in the report.

The principal table shows the resumes of each of the dates on which the group used the selected pack: the number of activities done, activities completed, total time and global precision. Global precision is the average obtained by all the users of the group, and the other columns (including time) show the totals accumulated by each user.

The **Global summary** table shows the total and the average precision of all the sessions that appear in the main table.

The graph represents the evolution of two variables over a time: the global precision (the average precision of each user) and the percentage of solved activities in respect of the total number of activities done on each date.

The **Print** button allows you to carry out two different functions: to overturn the printer that appears in the image on the screen (including the graphic) or a list of the data in text format.

## User reports

This window shows detailed information of the results corresponding to a particular user.

The two drop-down lists in the upper left of the window are for choosing the group and the user that the report will refer to. These lists are deactivated if the programme has been accessed from the **Reports-Report on current user** menu, to prevent a user who is not the system administrator from gaining access to other users' reports.

The list **Data relative to...** allows you to limit the data to a determined activity pack among those that the user has used at any time. The **Reports by activities and packs** window also allows you to get detailed information on the results of a user regarding a particular pack.

The **From... To...** button leads you to a window where you can indicate the period of time contemplated in the report.

The **Sessions** list shows all the times that the user has used the selected pack (or any pack, if none has been marked). Clicking on the elements of this list will show a detailed table of all the activities that the user has done in that session: the name of the pack and activity, time taken, attempts, correct answers, completion and global precision. Underneath this table there is

another with the resume of the session: number of activities done, activities completed, total time and average global precision.

The **Session summary** that appears below the pack list is calculated from the data of all the sessions on the list.

The graph represents the evolution of two variables over a time: the global precision (the average precision of the user in each session) and the percentage of activities solved in respect of the total number of activities done.

The **Print** button allows you to carry out two different functions: to overturn the printer that appears in the image on the screen (including the graphic) or a list of the data in text format. If you opt for the list, there are two further options available: print only the data referring to the selected session or print the complete relation of activities of all the sessions.

## Reports on packs and activities

In this window you can observe the results obtained by the users in a particular activity pack or in a particular activity of a pack. The two lists in the upper left of the screen allow you to choose the pack or activity that the calculations will refer to.

The report can refer to all users, all users in a particular group, or just one user.

The **From... To...** button leads you to a window where you can indicate the period of time contemplated in the report.

The **Sessions** list shows, grouped by dates, all the times that a user has done the selected pack or activity. Clicking on the elements of the list will show a resume of the results obtained on that session: Activities done, activities solved, total time (the total time taken by all users) and the global precision average.

The **Global data** table indicates the number of users who have used the pack or activity, the number of sessions in which it has appeared, the number of activities done, activities completed, total time and the global precision average.

The **Pack evolution** graph represents two variables over a time: the global precision (the average precision obtained on each date) and the percentage of activities solved in respect of the total number done.

The **Distribution of results** groups the results obtained in the activity or pack grouped by five columns: the left column represents the number of times that very low results have been obtained (between 0% and 20%), and the right column shows the highest results (from 80% to 100%).

The **User classification** is ordered from the global precision average obtained by everyone who has done the activity or pack. It is important to check the "**Acts**" column, where the number of times that each user has done the pack activities is shown, as someone who has only done an activity once but obtained a good result will be ahead of someone who has done the pack various times but with some errors. For more detailed information about a particular user's behaviour with a pack it is recommended to consult the user reports window.

The **Print** button allows you to carry out two different functions: to print the image that appears in the screen (including the graphic) or a list of the data in text format. If you opt for the list, there are two further options available: print only the results of the selected session or print the résumés of all the sessions.

## Compacting the database

The file containing the base usually increases its size even though data is cleaned or users or groups are eliminated.

Every so often you should carry out a maintenance operation, which involves cleaning data that is no longer valid from the files. The database will work faster and more agile if you compact it regularly.

It's advisable to make a security copy of the CLICDB.MDB file before undertaking this operation, as a power cut or a system failure could render the base unusable.

The operation of compacting the database should never be undertaken while there are other users working with Clic on the network.

Compacting may take some minutes if the database has grown a lot.

## Accessing ClicDB with parameters

These are the parameters that can be optionally included in the command line for the icons that access ClicDB:

### ***/DB:DataBase***

ClicDB obtains the location of the database from the parameter **reportBase** in the CLIC.INI file, but you can force it to work with an alternative base by indicating its path and name in this parameter.

For example, the command line:

```
CLICDB.EXE T:\REPCLIC\TEST.MDB
```

...will make the programme use the database TEST.MDB in the T:\REPCLIC folder. The databases indicated by means of this parameter must always have the same format as that used by the Clic report system. For carrying out tests you are advised to always do so from a duplicate of the CLICDB.MDB file.

### ***/USER:userid***

When this parameter appears in the command line ClicDB will immediately show the report screen of the user who has the numerical code *userid*. You can consult the codes of each user by accessing their properties from the maintenance of users and groups screen.

For example, the command line:

```
CLICDB.EXE /USER:35
```

... will show the report screen of the user who has the code number 35. If no user has this number an error message will be shown.

When you access ClicDB with this parameter the possibility of consulting other users' reports and access to other programme screens is blocked. This function is designed to enable each student to consult his/her reports more easily, but without the possibility of modifying the information contained in the database. Clic uses this parameter when the menu **Reports - Current user reports** is activated.

The two parameters may be combined in the same command line, separated by a blank space.

## The ClicPac utility



### What does ClicPac do?

ClicPac is an accessory programme for Clic 3.0, which allows you to perform four basic functions:

- See the contents of the Clic packs (PAC and PCC files)
- Create compact Clic packs (PCC) from the normal packs (PAC)
- Decompress the PCC packs, to return them to normal format.
- Copy normal packs (PAC) from one folder to another, dragging all the files necessary for its functioning.

### Seeing the contents of the packs

To see the files contained in a Clic pack you can take the following steps:

- First choose the type of pack (PAC or PCC) you want to see.
- Enter the unit and the directory where the pack is to be found.
- Click once on its name. The programme will analyse the pack and show a list of all the files contained in it.

To see more information about any of these files you have to click on its name. In the case of the images (BMP and GIF files) you will be shown a reduced version in the window on the right. For texts the content will be shown, and in the case of an activity (PUZ, ASS, SOP, CRW and TXA files) a relation of the variables that determine its working.

You are advised to activate the **Do not explore outside pack directory** if this has a very complex structure or if you are accessing activities that are in different directories.

You can also mark the option **Do not explore pack threadings** if you only wish to see the components of a particular pack that forms part of a bigger structure.

### Creating compact Clic packs (PCC)

To create a compact Clic pack we must start with a normal pack (files with the extension PAC). The compact Clic packs bring all the elements necessary for their execution together in one file: activities, texts, images, and other related packs, except for the multimedia files (sounds and videos) and other external files (help, Write, programmes, DLLs, etc.), which have to be independently filed so that Windows can interpret them.

The steps to follow in creating a compact Clic pack are:

- Choose the **Normal Clic pack file (PAC)**
- Choose the unit and the directory where the pack is found.
- Click on the name of the pack to be compacted. If you are dealing with a group of linked packs you should choose the main pack.
- When the process of analysing the pack contents has finished, click on **Compact** button.
- In the screen that appears, choose the files that should form part of the compact pack, using the **Exclude** and **Include** buttons. If the pack uses material found in different directories you will also have the possibility of automatically excluding all the files that are not in the main directory.
- You can also indicate a specific description for the compact pack, and a different name or directory to the default ones. To avoid problems, you are advised never to change the extension: Clic compact packs must always have the extension PCC.
- Once these parameters have been adjusted, click on the **Create compact pack** button.

When the programme has finished creating the PCC file, it will propose erasing all the files that have gone into it from the hard disc. It is advisable to accept this option if you want to save space in the hard disc.

## Decompacting PCC packs

When Clic uses a compact pack (PCC files) the activity edition functions are deactivated. To carry out any modification, their original format (PAC) will have to be restored.

The steps to follow in returning a compact Clic pack to PAC format are:

- Choose the kind of **Clic Compact pack (PCC)** file.
- Choose the unit and the directory where the pack is found.
- Click on the name of the pack to be decompacted.
- When the process of analysing its contents has finished, activate the **Separate** button.
- Choose a unit and directory for extracting the pack contents. The default proposal is that which corresponds to the PCC file.
- Choose the files to be decompacted. Initially they will all be marked but it might be of interest to only extract a few of them. You can make multiple choices by keeping the [Control] or [Shift] keys pressed while you click on the file names.
- Once the files have been chosen, activate the **Extract** button.

The programme will create the chosen files in the destination directory. This operation will not erase the files of the compact pack, but will limit itself to making a copy of them. If all the files of a compact pack have been extracted, we recommend you to erase the PCC files manually in order to free space in the hard disc.

## Copying normal packs PAC

One of the functions of the programme is to copy all the elements referenced by a normal Clic pack (files with the extension PAC) to a different folder. This operation allows files that are not used in any activity to be found, thus freeing space in the hard disc.

The steps to follow for copying a pack are:

- Choose the kind of **Normal Clic pack (PAC)** file.
- Choose the unit and the directory where the pack is found.
- Click on the name of the pack to be copied. If it is a group of connected packs choose the main one.
- When the process of analysing its contents has finished, click on **Copy** button.
- Choose the unit and the directory where you want to copy the files. It must be different to the one where the pack was originally. We suggest you use a clean directory, where there is no other file. You cannot create other directories from ClicPac, but they can be made using the *File Manager* of Windows 3.1, or the *Explorer* of Windows 95.
- Choose the files to be copied (it's advisable to leave them all marked), and activate the **Copy** button.

After copying a file to a new destination we recommend testing it. If all goes well you can eliminate the contents of the original directory.

## Differences between PAC and PCC packs

The compact Clic packs (files with the extension PCC) can group all the material necessary for executing an activity pack in one file, with some exceptions:

The multimedia files (WAV, AVI, MIDI, etc.) must be located outside the compact pack so that Windows can interpret them.

The auxiliary files (WRI, DLL, EXE, etc.) must also keep their independent format.

It is not obligatory to include all the material of a pack in the PCC file. If you see fit, you can leave some files in their original independent format. When Clic uses a compact pack it tries to find the material necessary for executing the activities in the PCC file. If it doesn't find them it will look outside, and if they still don't appear it will show an error message.

The activities and packs cannot be modified when they are inside a PCC pack. If you want to make any modifications, or study their contents, you have to decompact them and open them again in their original PAC format. Once they have been modified we suggest that you compact them again.

If you have compacted a group of linked packs, the pack that will run when you load the PCC file will always be the one that was chosen as the main pack in the moment of compacting.

The PCC files don't compress data (as would a ZIP), but limit themselves to connecting the information corresponding to the different that they contain. Nevertheless, the use of PCC compact packs allows you to save disc space, as they considerably reduce the residual occupation caused by the storage system by means of accommodation tables (FAT), which is used in systems based on MS-DOS and Windows 95.

Clic activities usually use a lot of small files. The organisation of the hard disc in FAT means that each of these files occupies, in reality, a bigger space than it really needs. This space may reach, in the bigger discs, a minimum of 30kb per file. The hard discs are organised in clusters, which are the rooms where the files are kept. Each file occupies at least one cluster (they cannot be shared, even though we're dealing with small files). As a result a file with a single line of text that theoretically occupies 60 characters, is in reality occupying 30,000 in the hard disc. The use of PCC packs can spectacularly reduce this residual loss of space.

## Appendix: Instructions for installing Clic 3.0 on a network

*We recommend you to print and study this document before you try to install Clic 3.0 in a room connected to a network.*

Clic 3.0 incorporates a new report system, which uses the Access1.1 database. In rooms where the computers are connected on a network it is suggested that all stations share a single database, instead of each having its own in the hard disc. This centralisation of information presents several advantages:

- The students may use any computer in the room in their work sessions with Clic activities: they will always receive the same list of groups and users and their work data will go to a common destination. When the students consult their work reports they will find the accumulated data from all the sessions done, independently of the computer that they used in each one.
- The teaching staff should carry out the maintenance of the base and follow each student's progress from a single computer, without having to move from table to table to see what each group has done.
- The task of making security copies of the information is simplified, as all the data is in one file located in the network server.

The **ClicDB** programme allows the teaching staff to carry out the maintenance of the database: registering and unregistering users, queries, etc.

Students may access indirectly to one of the ClicDB screens (from the **Current user report** menu of Clic) but in a mode from which it is not possible to modify the base. To avoid the students accessing the administrative functions it is recommended that the ClicDB icon be shown only on the network server.

During the installation process three questions relevant to the implementation of the report system on the network will be asked:

- The installer asks if you wish to centralise the database in a single computer. In the affirmative, you should indicate the placement of the server's shared directory, as will be explained later.
- It also asks if the report system should be activated automatically every time that Clic is run. In a classroom the most logical thing would be to say YES. You can always change this decision by accessing the global options menu in each computer.
- The last question refers to the **ClicDB** programme icon. As has been explained, this icon allows you to activate the programme that will carry out the maintenance and all types of consultations in the database. It is advisable to answer negatively to this question except when installing Clic in the server, as the use of ClicDB should be reserved exclusively for the teaching staff.

In this document there are some suppositions made regarding the configuration of the local network:

- We assume that the server has a folder called **C:\COMMON**
- We assume that this folder is shared, with reading and writing rights for all stations.



- We assume that the stations have the letter **T:** assigned to the server's folder **C:\COMMON**.
- We assume Clic will be installed in each computer in a folder called **C:\CLIC**

It may be that your network is not configured exactly like this: perhaps you wish to install Clic in another folder, (for example, C:\PROGRA~1\CLIC), that the shared folder is not called COMMON, neither is it in the unit C:, or the stations see the folder with a different letter to T:. If this is the case you should change the references to units and folders that are made in this document to those that correspond to your network.

These are the recommended steps for correctly installing the Clic report system on the network:

1. Create a folder in the server's area where all the stations have reading and writing rights. For example, if there is a shared folder called **C:\COMMON** in the server then you should create another one inside it called **C:\COMMON\REPORTS**. Normally the stations connect to the shared resources by means of a letter: let's assume that in this case it's **T:**. If that's so, then the stations should see the folder as **T:\REPORTS**
2. Check that all the stations can see this folder with the normal MS-DOS syntax. Clic is a 16 bit application and doesn't accept expressions such as **\\SERVER\COMMON\REPORTS**. Following on from the previous example, make sure that all the stations can see the shared file with the syntax **T:\REPORTS**. If they can't find it then you will surely have to create a link with a letter to the shared resource on the network. In W95/98/NT this can be done by using the function *Connect to a network unit* from the *Tools* menu in *Windows Explorer*.
3. Install Clic **in the server**. During the installation process you should answer:
  - That you want to install Clic in a local folder (for example, C:\CLIC)
  - That **YES** you want to use the network reports system
  - That the database should be located in the folder **C:\COMMON\REPORTS**
  - That **YES** you want the report system to be activated automatically
  - That **YES** you want to create the icon for the **ClicDB** programme

There are other questions, but they have nothing to do with the report system: install the examples or not, install the ClicPac utility, etc.

4. When the installation in the server has finished, run **ClicDB**. At this point you have three possibilities:
  - a) Register all the groups and users manually.
  - b) Register only the work groups and let the students register themselves when they start Clic for the first time.
  - c) Don't register anything and give total freedom to the students to register new groups and users.

Option **B** is recommended. Decide what is most opportune and, when you have finished close the **ClicDB** programme.

5. Let's move on to the **workstations**: You should install Clic in each one, responding:
  - That you want to install the programme in the folder **C:\CLIC** (or in any other local folder.)
  - That **YES** you want to use the network report system
  - That the database folder is **T:\REPORTS**
  - That **YES** you want the report system to be activated automatically.
  - That you **DON'T** wish to create an icon for the **ClicDB** programme
6. When installation has finished, if you chose a different option to **B** in step 4, you should run

Clic in all the computers (including the server) and carry out the following adjustments:

- Activate the **Options - Global Options** menu.
- Mark or unmark the boxes **Allow students create new users** and **Create new groups** according to the decision taken.
- Confirm everything and, when Clic asks you, tell it to save the changes for future use.

7. Check the workings of the report system from each of the stations.

As in any other programme that shares data on a network, it is necessary that the server start up before the stations do. If the server is turned off or the assignation of the network units is changed, an error message will be shown when Clic is run.

The network report system may cause Clic to suffer a delay in going from one activity to another, especially if there are many users using the programme simultaneously. With fast computers this will not be noticeable.

It might be convenient to use the **ClicDB** programme regularly to compact the database and clean the information that is no longer needed. You are also recommended to periodically make security copies of the **CLICDB.MDB** file in the server.

It is recommended that the maintenance of the database by means of the **ClicDB** utility is carried out when there are no other users using the Clic programme.

For more information consult the documentation of the **ClicDB** programme (page 46).