Advanced Techniques

Getting Text Input

There are often times when you wish to get the user of your publication to input text which you then either record to disk or use subsequently in the publication. An example of the former might be an order form; and example of the latter might be to get them to type their name, which can then be used to personalise the publication. The input text could also be used as a condition for deciding which parts of the publication open, or prevent access as with a password.

The Input Box The first step is to draw a text object, which will allow the user to type into it. We have provided a shortcut tool for creating text input boxes but in fact any text object can be set to accept input via the input tab of the Properties dialog. Equally an input box drawn with the shortcut tool can subsequently be edited via the Properties dialog like any text object. You can switch this on and off by clicking the Allow user to type input... checkbox on the Input tab of a text object's Properties.

Using the Text Input tool to draw the input box gives it the familiar appearance of a text input box.

However, if you double-click on the object you can use the standard Text Properties dialog to change the background colour, the border and/or remove the shadow or indeed format it however you like. Another familiar style is the sunken input box, created by simply removing the Shadow effect and replacing the plain single pixel border with a sunken one with appropriate colours.

You can even set the font for the input box by clicking in it until you get the I- beam cursor and then set the font style, size and colour as though there was text in it. When the user types in the box, text will appear in the font specified as long as that font is available on the user's system.

There does not need to be any text in the input box for the text formatting to work.

Restricting Input If you wish to limit what the user can type into the box you can do so via the options on the Limit Input panel on the Input tab. This might be useful for limiting the number of characters to that which can be successfully displayed in another part of the program, or for only allowing a number to be entered when asking for the result of a sum in an educational publication.

As you can see, you can accept or prevent letters, numbers and/or special characters by clicking the appropriate option on or off. You can limit the number of characters allowed in the input and you can allow the box to accept carriage returns so that the user can type input on more then one line; for example, an address.

Storing Input Any text input by the user needs to be stored in a pigeonhole or variable. You can select this variable from the drop down list of those already available, or more likely, create a new one by typing the name for it in the box. You will find it easiest if you use a variable name that reminds you of its content as demonstrated here.

This stores anything typed into the input box in memory under the name you have given it. This information will be lost when the publication is closed unless you save it to disk.

Storing the Input on Disk To save the input text to disk you need to use the Storage actions for an object. This could be an additional action for the object that allowed the user to move on to a new page. Firstly, assign the action to a trigger by double-clicking on the Write to Disk icon.

A fourth tab appears to specify the information to be stored. You chose what to store by selecting the relevant variable from the drop down list.

Then save it to disk under an appropriate filename by selecting that option and typing the filename in the edit box

provided. Note that typing a filename alone will save the text in the publication directory. This will not work if the publication is being run from a CD-Rom as you can't write to a CD-Rom.

Alternatively you can specify a particular directory by typing it in here. If you leave the drive letter off it will save to that directory on whatever drive the publication is running from. For example, \Data\CurrentScore.txt in the filename box will store the file in a subdirectory of the current drive what ever that is, while C:\Data\CurrentScore.txt will store it on the C drive only. If your publication is to be widely distributed where you cannot really predict where you will be able to write the file you can specify that the file is stored in the Windows' TEMP directory. This is a system directory always present and can be written to on any Windows computer and is therefore the safest option.

You can choose to overwrite any information already in the file or simply add this information to it. You also have a number of ways to store the information to make it consistent with other programs, starting the new information on a new line, separating it with a comma as required for CSV files and/or using quotation marks around it.

Displaying the Input Text You can display the text the user has input elsewhere in your publication by automatically reading it in from a disk file you previously saved it in. This is done by drawing a text box and then selecting the Automatically read in this disk file option, then typing the name and location of the file in the box.

You would have to use this technique if you wanted the input text to be displayed after the publication had been closed and reopened without the user inputting text again. However, the easiest way is to simply display the variable the input was stored in. To do this, create another text box and click in it to bring up the I-beam cursor if necessary. Then from the Text menu or the right mouse menu select Insert Variable or Expression A dialog will appear allowing you to select the variable you want to insert by picking it from the drop down list or typing the name into the edit box.

Click OK to apply this and the variable name will appear in your text box. To illustrate that this is a variable piece of text and will change depending on the content of the internal memory pigeonhole, the text has chevrons round it.

Now when you run the Preview or when the project is published the contents of the variable will be displayed here. Remember, if there is nothing in the variable at the time, nothing will appear on screen.

Other Input Options

AutoFocus

Setting this option to on will cause the mouse cursor to go to the text input box as soon as the page opens. This allows the user to type immediately into the box without clicking in it first.

Update Variable

This option means that if the variable used to store the input text is displayed on screen, it will be updated as the user types and so the input text will appear where the variable is.

Moving to Next Text Box

These two options allow you to specify whether particular input keystrokes will move the user on to the next text input box (if there is one). This is useful where you have a series of fields for he user to fill in. It saves them having to keep clicking in each input box.

Ensuring the Variable is Updated It is possible that the user will click elsewhere on the page without pressing Enter to register the details they entered in the input box. In this case you may lose the information. The way to avoid this is to set the option to automatically generate an Enter key press if the user clicks elsewhere. The technical description for the currently active item is that this item "has the focus" so we can tell Opus to act as though the user has pressed Enter whenever the focus moves elsewhere by clicking this option on.

Creating MultiFrames

A MultiFrame is like a slideshow but more versatile. A Slideshow can only show a series of images, while a MultiFrame can show a series of images, vectors, text, buttons and more, or any combination of objects. You will find many uses for this powerful but simple tool.

Creating a MultiFrame

Select the Frameset tool from the Draw Tools toolbar then click and drag the tool on the page. This will create a new Frame Set containing one frame, similar to this...

When you first create a MultiFrame on a page, it will contain an outer MultiFrame and one inner frame.

The outer MultiFrame is also a frame and has exactly the same properties as other frames. The only difference, is that it has an extra MultiFrame tab in its Properties dialog. The inner frame works in exactly the same way as any other frame in your publication, that is, it can be used as a container for other objects.

Adding new frames to a MultiFrame You can add as many new frames in a MultiFrame as you want. To insert a new frame: 1: Right-click the mouse when it is over MultiFrame object in the Tree Organiser, this will open the right-click menu.

2: From the menu, select the Insert Frame option. A new Frame will be added above the last frame entered. 3: Continue adding frames as required.

Adding contents to a Frame To add contents on a frame you can either: 1: Click on the name of the frame in the Tree Organiser and then select your draw tool, such as the vector tool. Then simply draw the object inside the frame on the page and it will be inserted in the frame. 2: Alternatively, you can select the frame on a page and then select your draw tool and draw the object inside the frame.

Displaying the contents of a frame Only one frame in a MultiFrame is visible at one time. The frame that is visible on the page has a red box like this

beside the name of the frame in the Tree Organiser. The other frames in the MultiFrame show a grey box. If you want to edit the contents of a frame, click on the name of the frame in the Tree Organiser and it will be displayed on the page, the red box will now appear beside the currently selected frame.

Playing a MultiFrame A MultiFrame is really another animation tool. It is designed so that you can add objects to a set of frames in a MultiFrame, which you then play in sequence, one frame after the other. How it works is that one frame in the MultiFrame is displayed and the other frames are temporarily hidden. When the next frame is displayed, the previous frame is hidden, and so on until all frames have been displayed. There are two ways to display a different frame in a MultiFrame: 1: Select the MultiFrame tab from the MultiFrame Properties dialog. The tab allows you to play one frame after the other as soon as the MultiFrame is displayed on a page (see MultiFrame Properties section). 2: Select a MultiFrame Action - Opus has also provided a number of MultiFrame Actions that allow the user to control the playing of frames in a MultiFrame (see Actions: MultiFrame section).

Playing Order for Frames

The first frame to be displayed on a page is the frame that appears highest in the list of frames in a MultiFrame, as shown in the Tree Organiser.

In this illustration, Frame 2 will be displayed first, then Frame 1. .

MultiFrame Properties

When you call up the Properties for a MultiFrame, there is a MultiFrame tab which allows you to automatically play each frame in the MultiFrame. This is basically a series of frames displayed in turn. Each frame can contain a single object or a combination of objects, such as images, buttons or text. To open the Properties dialog for a MultiFrame: 1: Click on the name of the MultiFrame in the Tree Organiser. 2: Right-click on the name of the MultiFrame to open its right-click menu and select Properties at the bottom of the list. You can have a MultiFrame automatically play each of the frames contained within it by ticking the Play Automatically option.

Choose the time in seconds that you want each frame to be displayed before it is hidden and the next frame is displayed. Note: if you have a transition on any of the objects in a frame, you must allow time for the transition effect to finish before you move to the next frame, otherwise the transition will not be completed before the next frame is displayed. You can also set the number of times that each frame in the MultiFrame is displayed.

By default, the frames will be played continuously but you can have frames appear just once or a specific number of times.

Actions: MultiFrame

This subsection of the Actions dialog is MultiFrame which provides a series of actions giving the user control of when frames in a MultiFrame should be displayed. The MultiFrame tool allows you to create a series of frames each of which can contain a variety of objects of different types, such as vectors, images, text. However, only one frame in a MultiFrame can be displayed at one time, the user can decide when and which frame in the MultiFrame should be displayed next using the MultiFrame actions. Alternatively, frames in a MultiFrame can be automatically played using the Play Automatically option from the MultiFrame tab in the MultiFrame Properties dialog.

Go to next frame

This option will go to the next frame in a MultiFrame. When you select this action, a Go to next frame tab will appear after the Programming tab in the Actions dialog. The tab will show a list of all the MultiFrame objects currently available on the page.

Select the MultiFrame you wish to play by clicking on it. Then click on the Apply button to save the settings. Any On Hide transition effects that have been entered on Object's in the current frame will be run before the next frame is displayed. Then, any On Show transition effects entered in Object's for the next frame will be run. Note: Each time this action is triggered it will move to the next frame in the MultiFrame. When the last frame in the MultiFrame is displayed and this action is triggered, nothing will happen.

Go to previous frame

This option will go to the previous frame in a MultiFrame. When you select this action, a Go to previous frame tab will appear after the Programming tab in the Actions dialog. The tab will show a list of all the MultiFrame objects currently available on the page.

Select the MultiFrame you wish to play by clicking on it. Then click on the Apply button to save the settings. Any On Hide transition effects that have been entered on Object's in the current frame will be run before the previous frame is displayed. Then, any On Show transition effects entered in Object's for the previous frame will be run. Note: Each time this action is triggered it will move to the previous frame in the MultiFrame. When the first frame in the MultiFrame is displayed and this action is triggered, nothing will happen.

Go to end frame

This option will go to the last frame in a MultiFrame. When you select this action, a Go to end frame tab will appear after the Programming tab in the Actions dialog. The tab will show a list of all the MultiFrame objects currently available on the page.

Select the MultiFrame you wish to play by clicking on it. Then click on the Apply button to save the settings. Any On Hide transition effects that have been entered on Object's in the current frame will be run before the end frame is displayed. Then, any On Show transition effects entered in Object's for the end frame will be run.

Note: Each time this action is triggered it will move from the current frame in a MultiFrame to the last frame without showing the other frames.

Go to start frame

This option will go to the first frame in a MultiFrame. When you select this action, a Go to start frame tab will appear after the Programming tab in the Actions dialog. The tab will show a list of all the MultiFrame objects currently available on the page.

Select the MultiFrame you wish to play by clicking on it. Then click on the Apply button to save the settings. Any On Hide transition effects that have been entered on Object's in the current frame will be run before the first frame is displayed. Then, any On Show transition effects entered in Object's for the first frame will be run. Note: Each time this action is triggered it will move from the current frame in a MultiFrame to the first frame without showing the other frames.

Go to a specific frame

This option will go to a specific frame in a MultiFrame. When you select this action, a Go to a specific frame tab will appear after the Programming tab in the Actions dialog. The tab will show a list of all the MultiFrame objects currently available on the page.

Select the MultiFrame you wish to play by clicking on it. Next select the number of the frame that you want to go to.

Then click on the Apply button to save the settings. Any On Hide transition effects that have been entered on Object's in a frame will be run before the specified frame is displayed. Then, any On Show transition effects entered in Object's for the specified frame will be run. Note: Each time this action is triggered it will move from the current frame in a MultiFrame to the specified frame without showing the other frames..

Follow Script Animation

This is the most versatile animation as it allows you to set up a series of commands that your object follows to move around the screen

The list of available commands is provided in a list on the right and the script you are creating appears in the box on the right. To add commands to the list simply double-click on them in the list or click the Add button. To remove them again select them in the script and click on the Delete button. You can reorder lines in the script by selecting them and clicking on the Up or Down buttons as appropriate. You can edit the script items by selecting them and then altering the settings via the boxes provided at the bottom of the panel. Each action has a different set of options but the controls should be self-explanatory. Most of the commands available in the script are also self-explanatory but note that Forward and Backward make actions refer to the direction the object is pointing which means that the rotation of the object is significant. If you want to move the object up and down the screen, irrespective of its orientation then use the Move Up, Move Down, Move Left, Move Right commands.

Looping You can repeat any of the steps in the script by placing them between a Label and Go to Label. If you choose the Go to Label Forever the actions keep repeating until the animation is stopped, otherwise you can set the number of times the command loop by setting the Times edit box.

Custom Scrollbars

When you add a scrollbar to an object you can edit all aspects of that scrollbar including the buttons and the background. This allows you to create graphical scrollbars or simply re-colour the standard ones so that they

complement the design of your page. These properties can be accessed by double-clicking on each individual item in the scrollbar concerned to call up the Scrollbar Properties. This is another tabbed dialog, which provides the following sections.

These provide exactly the same control as for any other object and refer to the scrollbar as a whole. The image and background tabs effect the bar on which the buttons and thumb sit and the border applies to the whole combination. Note, in particular, that you can choose to have no background so that the scrollbar buttons and thumb sit directly on the background of your page.

The Buttons and the Thumb section can be edited separately. The Thumb is essentially a small graphic so this can be edited in the same way as any other image. The Up Button and Down Button allow you to set the same properties that are available for other buttons (see page 130) including a graphic for each.

AutoNarration

A common feature of educational multimedia publications, particularly those that are designed to encourage or teach reading and language skills, is text that is highlighted in time with a narration. Opus includes a special function that helps you create this feature effortlessly. It is called AutoNarrate and can be added to a particular piece of text and then played using an action.

Creating an AutoNarration The first step in creating an Auto-Narration is to create a text object in the normal way and type or import the text you wish to narrate. No other text should be included and the less formatting the better. Select the text and click in it to change the cursor to an I-beam and select Add AutoNarrate from the right mouse menu or the Text menu. This will bring up a dialog, which will allow you to choose a .WAV file to narrate the text with and to tell the AutoNarrate how many words to highlight at one time.

Note the clearer the diction of the narrated text the more successful the automatic creation of the Auto-Narrate will be. Once you have created an AutoNarration you must play it (as explained below) for it to occur in your publication.

Editing the AutoNarration If the automatic synchronisation of the Auto-Narration doesn’t quite work you can edit it manually.

Highlight the text that is being narrated. Now select Edit AutoNarrate from the right mouse menu or from the Text menu. A dialog will appear as illustrated below which shows the .WAV file and the text it is narrating.

The dividers show how the narration is divided up in relation to the text. If you click on a section of the .WAV file you can hear it to judge whether it is right. To move the divider through the .WAV file click on the divider where it appears in the .WAV file (namely in the bottom section) and it will turn red. Drag it left and right as appropriate to change the division of the .WAV file so that the sound is in the correct section for the text it narrates. To move the divider through the text file click the divider where it appears in the text (that is in the top section). It will turn green and you can drag it left and right through the words to match the text with the sound narrating them. If the narration starts some way into the .WAV it will impact how well the automatic narration is applied and how well it replays. In this instance you will need to edit the sound file in a .WAV editor to cut that section out so the narration starts as close to the beginning of the .WAV file as possible.

Playing the AutoNarration You can get your AutoNarration to run by either starting it automatically or by using the Play action to play it.

Starting Automatically You can set a narration to start automatically. Bring up the Edit AutoNarrate dialog as explained above and click the Auto Start checkbox.

Play

Select the event that will trigger the AutoNarrate to be played, or the Condition on which it will be played. Then go to the Text section of the Actions dialog for the object you want used to control the AutoNarration. Double-click on

the Play Narration icon to apply that to your trigger.

Select the piece of text you wish to narrate by selecting its name from the list. Only text objects that have already had an automatic narration added to them will be visible.

Stopping the Narration To stop a narration which is already going follow the same procedure as with Play Narration above but select the Stop Narration icon.

AutoNarration Text Style The style of text used to highlight text during an Auto-Narration is set by the Text Effect styles on the Text Properties. Styles can be selected from those available by clicking on the drop-down list provided. The default style is set for you but you can either edit this default or create a new style by clicking the Customise button. This is detailed further in the next chapter. AutoNarrate works most successfully when you use a bold text for both plain and highlighted text but then change the colour to indicate the highlight progression. Using a normal font for the plain text and a bold font for the highlight will cause the text to be larger and may result in an undesirable concertina or overlap effect. There is an option to double the space between words to help avoid this.

If you want a more sophisticated highlighting of text, you can achieve this using multiple objects. Create the text in the individual sections you want highlighted and then use a Timeline to show a highlighted version in time with the narration. Obviously this is more time-consuming than the AutoNarrate feature and is therefore probably only suitable for short pieces of text.

Editing Text Styles

There are several functions where Opus automatically formats text for you because it indicates a particular type of text. These are presented in the Text Effect Styles section of the Text tab of a Properties dialog. They are: 1. The highlight used for automatically highlighting text in time with a

narration using the AutoNarrate:

2. The text style used to show a piece of text is a hypertext link:

3. The text style used to indicate that the mouse is over a piece of hypertext:

4. The text style used when a piece of hypertext is clicked on to show the user that their action has been registered:

These text styles need not all be different, either from each other or from the text they are surrounded by. You might, for example, want a piece of hypertext that is only distinguished such as when the mouse moves over it. You can also apply different styles to different instances of the same type of text. Thus a piece of hypertext might use the Red Underline style on one object and the Blue Underline style on another. This is not recommended as it may be confusing to the user, however it might be useful for differentiating between a hypertext which goes to another page and one which simply brings up an explanatory text object on the current page. It might also be useful for highlighting auto-narration in different ways. You choose the style you wish to associate with a piece of text by selecting a style from the relevant drop-down list.

Creating and Editing Styles You can create new styles and remove or edit existing ones via the Text Effects Styles dialog, which can be brought up by clicking the Customise button below the list of Text Effects on the Text tab.

The key thing to note here is that the settings on this dialog are not absolute text formatting but how the existing text formatting is to be modified for these styles. This is why many of the settings will be blank or have a greyed checkmark. Both of these mean that the current text formatting will be preserved in this respect. Thus if you do not specify a font style or size the current font style will be used. To select the style you want to edit simply select it from the drop-down list at the top. You can edit the name of the text style here too.

Then simply click the options you wish to be modified for this text style and then click OK to save the changes or Cancel to abort. If you want to create a new style simply click the New Style button. The new style will be given a default name, which you can edit if preferred. You can then set the options you require as with an existing style. You can remove an existing style by selecting it in the drop-down list and then clicking on the Remove Style button.

Creating an Index

Almost any publication will benefit from an interactive index, which allows the user to select a word or subject of interest, and then jump to one of the pages indexed for that subject. Opus provides two simple ways of creating an index for your publication, both are available on the General tab of the Properties dialog for the Page and are in the Search Keywords panel.

The first is the easiest and automatically generates an index of all the words in the text objects you have on the page. This is only really practical for publications with limited amounts of text and where there is text on the page that will adequately represent the page in the index. That is, a page about lions, which only ever refers to the lion as “the king of the jungle”, “magnificent beast” or “big cat”, will not create an index entry for lions. Furthermore this technique will include a number of unnecessary words in the index and only indexes individual words. The second option allows for much greater control over the words that will represent the page in the index. You can add the words or phrases you want in the format you want by simply typing them into the box provided. You can use both options together if you so wish. To add keywords quickly to this list simply select the text on your page and choose Add to Search Keywords from the right mouse menu.

Using the Index

To allow your user access to the index you need to program an action for a button or other object that will launch the index dialog. Bring up the Actions dialog for the relevant object, select the trigger you want to apply this action to and go to the Launch section. Then double-click on the Publication Search icon.

Opus will automatically generate an index and distribute it with your publication, unless you tell it not to by deselecting the Use publication search database option on the second General tab of the Publication Properties. When the user clicks on the object or calls up the Search dialog in the manner you have specified as the Trigger for that action the dialog below will appear.

This allows the user to scroll through the keywords or type one into the box provided. The titles of the pages on which that keyword appears will be displayed in the box at the bottom of the dialog. The user can then select the page they want to view and go to it by clicking the Go to Page button or by double-clicking on it in the list.

Note that the Search dialog remains open until it is explicitly closed by your user using the Close button. This is to enable users to review several different pages matching their search without having to continually perform the search again.

QuickFind Some versions of Opus also provide a readymade QuickFind component which simply searches any text in your publication and lets your user jump to that page.

Radio Buttons

Opus makes it easy to create and contol radio buttons by automatically providing a variety of System variables that can be used – see Variables in the Help file for more information. New to this version is the RADIO_GROUP variables explained below. RADIO_GROUP_1_ID – contains the index position of the currently selected button in a group of radio buttons. This variable is only to be used if you have created Button objects on a page that are set to the Radio Button in the Buttons tab of the object Properties dialog. Note: For example, if you have 3 radio buttons on a page all part of Group 1, then each button in the list has an index number starting at index position 0 and counting up by 1 for each new button in the group. For example:

Button 1 = Index 0 Button 2 = Index 1 Button 3 = Index 2 If the user selects the object named Button 2, then this variable will contain the number 1 (i.e. the Index number). The variable below (point 5) will contain the name of the Button object – using this example, if Button 2 was selected by the user, the variable will contain the name Button 2. RADIO_GROUP_1_NAME – contains the name of the Button object selected in group of radio buttons. Opus also

provides other group numbered System variables e.g. RADIO_GROUP_2_ID – use the variable that matches the number you entered in the Group box of the Radio Button option.

Controlling the Order of Actions

By default actions are performed in the order in which they appear in the Action Organiser and each action is "completed" before the next one is started – note that most actions simply start an event so waiting for the action to finish is not the same as waiting for an event to finish and the delays between actions will be in milliseconds and therefore actions will appear to happen concurrently. The reason for this is that it gives predictable and consistent results whereas attempting to perform all actions at once will result in all timings being at the mercy of internal system events and controls and therefore varying inconsistently. However, this consecutive arrangement means that some actions may delay others more noticeably. The most obvious example of this is where the transitions used to show and hide objects are set to be exclusive as this ensures that nothing else happens at the same time. You will need to take this into account when setting the time a transition will take. Animations are also exclusive.

Actions Organiser Thus the order in which actions appear in the Actions Organiser is important. You may, for example, wish to ensure that processes such as updating scores or changing variables which are almost instant are performed before actions which require files to be loaded or written to such as playing a large video or writing scores to disk, and that last of all should come animations or events with transitions. You can reorder actions in the Actions Organiser by selecting the action(s) you want to move by clicking on them. Hold down the Ctrl key while clicking to select more than one action. If you want to select a list of items click on the first item in the and then hold down the Shift key while pressing on the last item in the list. Then drag them to the new location. As you move up and down the other items in the organiser they will be highlighted to show that this is where the items will be dropped. Note that if the new location is above the chosen items they will be dropped above the selected item and vice versa. Alternatively you can use the buttons on the Actions Organiser toolbar

In order of appearance these let you delete the selected action(s), insert the action selected in the action panel, move the selected action(s) down, move the selected action(s) up or duplicate the selected action(s).

Simultaneous Actions If you want Opus to attempt to run all of a set of actions at once you can use the Simultaneous Action Group from the Programming section of the Actions dialog. Simply select the trigger you want to start this group of actions and then double- click on the Simultaneous icon in the Programming panel.

You can now add as many actions as you like underneath this control in the normal way. They will appear as a sub-branch of this control and when the trigger occurs Opus will attempt to perform all the actions at once. If you have set transitions to be exclusive this will still impact the progress of the actions so you may wish to make sure this option is off.

Consecutive Action Group There is also a function to provide a Consecutive Action Group that is applied in the same way as the Simultaneous Action Group via the Consecutive icon on the Programming section.

In the normal course of development you do not need to specify that a group of actions are consecutive because they are consecutive by default as explained above. However, this function is provided so that you can place a set of consecutive actions within a simultaneous group as there might be occasions where you want groups of actions to be started simultaneously but you want the actions in those groups to be performed one after the other.

Timelines Timelines are self-contained sequences of actions displayed on a timeline graph. They provide a good way to visualise the relationships between events as their start and finish times are also displayed visually on a timetable as illustrated below. They are intended to allowing you to create easy combinations of actions and to easily synchronise certain events.

Please note, however, that the timings refer to the actions themselves, not the objects. Thus if you have a Play Video action this will appear as an instantaneous event. The video it starts to play will obviously last a certain time but this

is not displayed on the timeline. Opus is a multithreaded program and so the video plays separately and will not impact on the timing of subsequent actions. Other actions such as animations and transitions will effect the timing of actions and are therefore displayed as blocks of time on the timeline. Timelines are only viable on the page on which they occur.

In the example above the Show and Disable actions happen at the same time, next comes the Bounce animation, which clearly continues beyond both the play video action and the print action. Finally after 7 seconds the timeline will cause the program to exit. Note that after this point the timeline display is covered with hatched grey lines. This is to indicate that any actions in that area will not be performed as an action has closed the publication or moved on to another page where the timeline no longer applies. Where an action is represented by a block of time you can interactively edit that timing by resizing the block much as you would resize an object on your page.

If you then return to the properties of the object you will find the timing has been updated to reflect the changes you made on the timeline.

To create a timeline simply click the Timeline tool on the Tools toolbar.

A timeline will be added to the page and will appear in the Organiser. The editing dialog (illustrated above) will automatically appear for you to start creating the sequence of events on the timeline. On the right of the dialog is a panel containing all the action icons in their tab subsections exactly as provided on the Actions dialog. To add an action to your timeline simply drag its icon from the panel on the right onto the appropriate section of the timeline. The timeline dialog is resizable via the bottom right corner so you can expand it if you have the screen space. It will also automatically roll up out of the way if you click on the publication behind it . You can then roll it back down by clicking on the title bar. Timing is in Minutes: Seconds and Milliseconds

Timeline Toolbar

A simple toolbar is provided on the timeline to allow you to perform basic editing on the events in the timeline, these are... ...Cut, Copy, Paste, Delete, Duplicate, Undo, Redo, Align Start, Align End, Distribute. Both Align Start and Align End require you to have selected more than one event on the timeline, which you can do by holding down the Shift key while clicking on the relevant actions. The Distribute option applies only to actions on the same line of the timeline and allows you to distribute them evenly.

Properties A series of properties for the timeline are available from the Properties button at the bottom of the Window

As illustrated this allows you to set the Timeline to Auto Start (i.e. it needs no trigger for it to begin but will start as soon as the page is opened. It also allows you to specify whether the timeline repeats and if so how often.

Options

Available from the Options button at the bottom of the timeline dialog. This switches on or off two features of the way the actions you place on the timeline are edited. With the first option on the small dialog which pops up to allow you to set the options for that action will slide open rather than just appearing. The second option allows you to stop this edit dialog automatically appearing when you add an action and therefore allows you to add a number of actions before you begin to edit their properties.

Loop This is option allows you to set up an action or series of actions which are performed repeatedly, either a set number of times or indefinitely. As with Simultaneous Action Group select the trigger you want to start this group of actions. Next double-click on the Loop icon in the Programming panel.

A fourth top-level tab appears which allows you to set whether the actions should be looped indefinitely until the page is changed

or a certain number of times.

You can also tell Opus to loop the actions only while the object that triggered them is visible.

Once this is done you can add as many actions as you like underneath this control in the normal way. They will appear as a sub-branch of this control and when the trigger occurs Opus will perform the actions repeatedly until the required number of iterations or the page changes. Any actions listed after the loop will not be performed until the loop has been completed. Loops must therefore be used carefully. The following is a simple example of a countdown

A left mouse click on a button called CommenceCount begins by setting the COUNTDOWN variable to 10. Then comes the loop, which is repeated ten times. Each time it subtracts 1 from the COUNTDOWN variable, shows the display of the countdown and then waits a second before repeating the process. (In fact you do not need to Show the CountdownDisplay as it is has not been hidden and Opus automatically updates the display as the variable has changed. It has been included here simply as an example action). Only when the countdown reaches Zero and the looping process is complete does the program move on to the next action, in this case it Exits the publication.

Event Marker

The Event Marker tool is very useful when you are trying to sequence events. When previewing a publication, you can store a list of event markers (a time showing the number of seconds, minutes or hours that the current page has been open in preview) to a Time Mark List. This list can later be used for reference when you set up actions or events. Every time you preview a page or publication, a Time Marker dialog will appear in the bottom right-hand corner of the preview screen...

The timer box in the dialog counts in seconds the amount of time the current page has been open in the preview screen. Clicking on the Mark button stores the current time displayed in the timer to the Time Mark List window...

When you exit the preview screen and return to the Opus editor, the Time Mark List dialog will be displayed. The List shows all of the event markers you have set on each page, as illustrated on the left. You can expand or contract any page by clicking on the plus or minus boxes at the head of each page. A scrollbar will appear on the right of the dialog when there is more information to display.

Often in publications you want to have objects show or hide in time to other events, such as sequencing bullet points to a voice over. The Event Marker tool can help you work out the times quickly. Simply preview the page, and while the voice over is playing, click on the Mark button each time you want a bullet point to appear. The Time Mark List will show the list of timings for the page and you can then use this list as a reference when you set up your Actions or Timeline.

Each time you go to a different page in your publication, the timer resets to zero and begins its count again. This feature is useful if you want to create ‘hands free’ or running demonstrations. Preview your publication and read the information on each page, click the Mark button and move to the next page, then repeat this process for every page. The Time Mark List will now contain the timings for each page, which you can then use to fill in the Show Page for option in the General tab of Page Properties. Please note, every time you preview your publication, the timings in the Time Mark List are cleared. Alternatively, click on the Lock icon at the bottom of the Time Mark List dialog...

... this will keep the timings from the previous preview. You cannot create new timings until you click the Lock icon again to unlock the timings. If you don’t want to show the animated spinner every time you click the Mark button in preview, untick the Show spinner option at the bottom of the Time Mark List dialog...

You can close the Time Mark List in the Opus Editor by clicking on the cross in the top right-hand corner of the window – this will not clear the timings contained in the list. To re-open the Time Mark List, select Time Mark List from the View menu.

Turning off Event Marker When you start a new publication, the Event Marker tool is automatically set to display every time you preview your publication. To turn off the Event Marker for new publications or for the publication you are currently working on, select Options... from the Tools menu and click on the View tab.

Un-tick the Use Time Marker in preview option to turn off the Event Marker. At any time you can turn Event

Marker back on by ticking this option.

Advanced Triggers

Mouse Move

When this option is used, the action occurs as soon as the mouse cursor moves, it does not require the user to click the mouse button or to mouse over an object, the actions simply happen as soon as the mouse moves.

Pre-Show

This option allows you to trigger an action or series of actions before the object is displayed. This trigger precedes an On Show trigger, in other words, any actions set in the pre-Show will happen before the Object is displayed on screen. This is very useful if you want to set or reset variables or actions before displaying the object. For example, before you display a page, you could have a pre-Show trigger on the page which checks a variable to see if this page should be displayed or ignored. If you had put the same variable on the On Show trigger and the variable stated you should ignore this page, the user would see the page display for an instance (like a 'flash') before the correct page was displayed.

Pre-Hide

This option allows you to trigger an action or series of actions before the object is hidden. This trigger precedes an On Hide trigger, in other words, any actions set in the pre-Hide will happen before the object is hidden.

Drop Object Removed

This option will only be triggered when a dropped object is moved out of a Drop Zone (i.e. an object that can receive dropped objects). This trigger can only be used by objects that can have objects dropped on them, in other words, the object is a Drop Zone. Furthermore, this option will only be triggered if the 'Objects can be dragged off once dropped' checkbox has been ticked in the Drop Zone object's Drag and Drop tab in the Properties dialog. You can use this trigger to start a sequence of actions when an object is moved out of a Drop Zone, for instance, if the user dropped the wrong object into the Drop Zone a point may be deducted from their total score, a point could be awarded if the user realises their mistake and removes the object from the Drop Zone.

Drop Zone Full

This option will only be triggered when an object that has been set up as a Drop Zone is full i.e. it cannot receive any more dropped objects. This trigger can only be used by objects that can have objects dropped on them, in other words the object is a Drop Zone. Furthermore, this option will only be triggered if the 'Limit Number of dropped objects' checkbox has been ticked in the Drop Zone object's Drag and Drop tab in the Properties dialog. You can use this trigger to start a sequence of actions when the Drop Zone is full, for instance, to show another drop zone, move forward a page or update the TOTAL_SCORE variable.

This Object Dropped

This option can be used by any droppable object. When a droppable object is dragged and dropped into a Drop Zone (i.e. an object that can receive dropped objects), this trigger is activated. This trigger works in the opposite way to the Object Dropped trigger, which is activated when a Drop Zone receives a droppable object. You can use this trigger, for example, to update score total variables or to set other actions in motion when an object is dropped in the correct Drop Zone.

Drop Refused

This option can be used by any Drop Zone object (i.e. an object that can receive dropped objects). When a dropped

object is dropped into the wrong Drop Zone (i.e. an object that will not accept the dropped object) this trigger is activated. You can use this trigger, for example, to deduct points from a score total or to set other actions in motion when an object is dropped in the wrong Drop Zone.

Collision Enter

You can set an action or series of actions to occur when one object enters the same space as another object on screen. This trigger can be set on any object on the page. When you select this trigger a 'Collision Enter' tab will appear after the Programming tab in the Actions dialog, this tab shows a list of all the objects on the page. Select the object or objects that will activate this trigger when this object crosses or enters their space on the page. You can use this trigger, for example, to create a 'bat and ball' games. The 'ball' could be an object that bounces randomly across the screen. A Collision Enter trigger could be set on the 'ball' so that any time the ball crosses or enters the space of the 'bat' object, the trigger is activated, which in this example could change the direction and angle of the 'balls' bounce, thereby giving the appearance that the 'bat' hit the ball in a different direction.

Collision Leave

This option is similar to the 'Collision Enter' trigger, however, it is activated when one objects leaves the same space as another object on the screen. This trigger can be used by any object on the page (see the Collision Enter trigger above).

Advanced Actions

Miscellaneous This subsection of the Actions dialog contains several actions aimed at more experienced users and provides a number of new features that allow you to show and hide objects on a page in a running order or to copy objects to the Windows Clipboard.

Show in Turn

This option allows you to create an Object List, which is a list of objects that are currently hidden on the page. Each time this actions trigger is activated, the next object in the list is displayed on screen. Once all the objects in the Object List have been displayed, activating this actions trigger again can be set to move to a different page in the publication. This action is often used with the Hide in Turn action to create presentation screens. 1: Open the Actions dialog for the object that will use this action. This can be the page or any object on the page. 2: Select the trigger that will start this action from the Triggers tab. A Left Mouse Click trigger is often used. 3: Select the Show in Turn action from the Miscellaneous tab at the bottom of the Actions tab. Click and drag the actions icon over the trigger in the left-hand pane and release the mouse. A fourth tab will appear after the Programming tab named Show in Turn containing the options you can set for this action.

4: Each time you use this action, a new Object List will be created.

The Object List contains a list of all the objects that are currently hidden on the screen. All objects are initially ticked, which means all objects are included in the Object List. If you do not want an object in the list, simply click on the tick box to remove the tick. Alternatively, you could select another Object List by clicking on the down arrow to the right of the Name. This will display all the other Object Lists created for this page. You can have more than one Object list for each page and each list could display different objects. Each time you activate this actions trigger, one object will be displayed from the list. The next time you press the actions trigger, the next object from the list is displayed, and so on until all objects have been displayed. The order in which the objects are displayed is the same as the objects position in the Tree Organiser. In other words, the highest placed object in the Tree Organiser list is displayed first, then the next highest, and so on. You can change this order by using the Up and Down buttons on the right of the dialog to move the selected object up or down in the order. Or you can set the objects to appear randomly by checking the Random Order checkbox. 5: The last option you can set is the next page displayed when

all the objects have been shown on screen.

By default, the next page displayed is the preset option <Forward>, that is, the next page in your publication. You can select a different page by pressing the down arrow to the right of the 'Change to' field to get a list of all the pages in the current publication as well as the preset options, such as <Forward> and <Backward>.

If you don't want the page to change once all the objects have been shown and the trigger is activated again, simply remove the tick from the 'Change page when all done' check box.

Hide in Turn

This option is used to hide the last object displayed in a Show in Turn action. Both the Show in Turn and Hide in Turn actions are often used to create presentation screens. A Show in Turn action is often triggered by a Left Mouse Click while a Hide in Turn action is often triggered by a Right Mouse Click. 1: Open the Actions dialog for the object that will use this action. This can be the page or any object on the page. 2: Select the trigger that will start this action from the Triggers tab. A Right Mouse Click trigger is often used. 3: Select the Show in Turn action from the Miscellaneous tab at the bottom of the Actions tab. Click and drag the actions icon over the trigger in the left-hand pane and release the mouse. A fourth tab will appear after the Programming tab named Show in Turn containing the options you can set for this action. 4: From the Name field click on the down arrow to the right of the field to select the name of the Object List that this action will use. For example, if Object List 1 was used in the Show in Turn action, select Object List 1 from the list.

Each time you activate this actions trigger, the last object displayed in the Object List will be hidden. 5: The last option you can set is the next page displayed when all the objects have been hidden on screen.

By default, the next page displayed is the preset option <Backward>, that is, the previous page in your publication. You can select a different page by pressing the down arrow to the right of the 'Change to' field to get a list of all the pages in the current publication as well as the preset options, such as <Forward> and <Backward>. If you don't want the page to change once all the objects have been hidden and the trigger is activated again, simply remove the tick from the 'Change page when all done' check box.

Move Object to cursor

This action will move the specified object to the current position of the cursor. A list of available objects is provided in the new 'Move Object to Cursor' tab. Select the object you want to move to the current cursor position.

Try this option with a 'Mouse Move' trigger and see what happens. Note: The centre point of the specified object will appear at the centre of the cursor.

Copy Object to Clipboard

This option will copy the specified object to the Windows clipboard, where it can be pasted into another software application. A list of objects on the current page are displayed in the 'Copy Objects to Clipboard' tab that appears after the Programming tab in the Actions editor. One option is available with this action:

Ticking this option will ensure that text within a text object can be pasted into a word processor as text and not as an image. Note: Some of the objects in a publication cannot be copied to the clipboard, such as, the Timeline, Script Objects and DocViews.

Copy Current Page to Clipboard

This option will copy the contents of the currently displayed page to the clipboard as an image, where it can be pasted into another software application. There are no options available for this action. Only the objects that are displayed when the action is triggered will be copied to the clipboard.

Copy Variable to Clipboard

This option will copy the contents of the specified variable to the clipboard as text, where it can be pasted into

another software application. Selecting this option will open the ‘Copy Variable to Clipboard’ tab after the Programming tab in the Actions editor. One option is available with this action:

Select the name of the variable from the drop-down list in the Variable field that contains the content you want to copy. Alternatively, select the New button to create a new variable. Note: The specified variable does not have to be displayed on the screen in order to copy its contents to the clipboard. Furthermore, if the variable is a system or publication variable then it does not even have to be on the same page that contains this action. If the variable is a page variable its contents are normally lost when another page is displayed, however if the page variable was initially created with the checkbox ‘Persistent (the value is saved when the page is not visible)’ ticked, then the contents of the page variable can also be saved to the clipboard.

Animation This section of the Actions dialog provides sophisticated animation tools that can be applied to any object on a page.

Move Object to Layer

This option allows you to move an objects layer position temporarily so that an animation can appear to move over or behind an object. Normally, an objects layer position is changed in the Tree Organiser, the higher up the list of objects on the page, then the higher in the layer order they become; objects that are lower in the list order will appear behind objects higher in the list if they overlap on the page. Sometimes, for an animation you may want to change the layer order so the animation appears over or behind an object but want to keep the layer order of objects on the page the same as they are in the Tree Organiser – this option will allow you to do this. When you select this action, a ‘Move Object to Layer’ tab will appear after the Programming tab in the Actions dialog. This tab shows a list of all the objects on the current page. Select the object from the list whose layer order you want to change and select the layer number from the option below:

The drop down list contains a continuous stream of positive numbers (i.e. 1, 2, 3, etc) and negative numbers (i.e. –1, -2, -3, etc) above and below the displayed Layer number zero. Objects that are given a number below zero will appear behind normal objects, which means the objects current position in the Tree Organiser. Objects that are given a number above zero will appear above normal objects. This option only sets one object at a time. If you want to change more than one objects layer position, add this action again for each object.

Audio\Video This section of the Actions dialog provides you with controls for playing sound, video and CD tracks. There is one advanced video action...

Stop Video and Reset

This action will stop a specified video or animation and reset it to the beginning frame. When you select this action a ‘Stop video and reset’ tab will appear after the Programming tab in the Actions dialog. This tab shows a list of all the video’s and animations on the page. Select the video or animation you want to stop from the list. This action has an additional Synchronise option:

Tick this option if you want to send a ‘Synchronise to End’ trigger when this action is activated (see Synchronise to Start/End’ section above).

Text This subsection of the Actions dialog allows control over text objects and narration. There are three actions for the more advanced user...

Count Words

This option will count the number of words in a text object or a variable and save the number to a specified variable. When you select this action, a ‘Count words’ tab will appear after the Programming tab in the Actions dialog. First you must select which object or variable you want to count the words in.

Select the Object radio button if you want to count the number of words in a text object. The drop down box to the right of the Object field will display all the text objects on the current page. Alternatively, you can select a variable

or create a new variable and count the words contained within it. This option is useful if you want to count the number of words entered by a user in an input text object because input is normally saved into a variable. Finally, select or create the variable in which the number count should be stored.

The variable containing the stored result could be displayed on the page or used as part of an IF action to check the correct number of words were entered by the user.

Count Lines

This option will count the number of lines in a text object or a variable and save the number to a specified variable. This action contains the same options as the Count Words action (see above).

Scroll to Line

Scrolls text to the line number entered in the 'Line number to scroll to' field, so that the new line appears at the top of the frame. Will do nothing if the bottom line of the text is on display.

Each of these actions work in the same way but simply change the text by a different amount or in a different direction. Apply the action to a trigger by selecting the trigger, selecting the Actions:Text tab and then double-clicking on the icon for the action you want to take. A fourth top level tab appears providing a list view of all the text objects available on the page. Select the piece of text you want this action to control by clicking on it with the left mouse button and then click the Apply button. Notice how the description in the Actions Organiser has changed to reflect the setting.

Launch

Email

This option will send an email to the named recipients along with any attachments you require. When this action is selected an 'Email' tab will appear after the Programming tab in the Actions dialog.

First enter the name of the recipients in the To: field.

Click on the Add button to enter the full Email address of the recipient, a 'new e-mail destination' dialog will appear:

You can send e-mail to more than one recipient, for each new recipient simply click the Add button again. The Send Type field in the dialog can be set to TO:, CC: and BCC: and the address is the full e-mail address of the recipient e.g. support@digitalworkshop.com. Each new e-mail address is entered on a new line of the To: field. If you enter an e-mail name incorrectly, highlight the name in the To: field and click on the Remove button to delete the entry. Enter the heading description for the e-mail in the Subject field.

Enter the full message in the Message field. This field will automatically scroll to a new line when you reach the end of the line or the bottom of the field.

Attachments can be sent with the e-mail if required. Click on the Add button to browse through the directories on your system to locate the required documents. Each new attachment will appear on a separate line of the Attachment field. To delete an attachment from the list, highlight the attachment in the Attachment: field and click on the Remove button.

Finally, there are two options you can set:

Tick this option if you want the e-mail to appear in your e-mail system on screen when the Email action is triggered, you can then change the e-mail prior to sending it. Alternatively, do not tick this option and the email will automatically be sent when the Email action is triggered.

Tick this option if the user is required to log on to their e-mail system prior to sending this e-mail. Alternatively, do not tick this option and the email will automatically be sent when the Email action is triggered.

Conditional Actions

There will be times when you wish to make an action only happen when a particular condition is met. This is a very useful tool for all sorts of functions such as enabling/disabling certain objects or parts of the publication, not letting users proceed until they have answered all the questions, or got a certain number correct. It is also useful for checking answers are correct or if an object dropped onto another is the correct one. Opus uses the straightforward question If to allow you to establish the conditions required for certain actions to take place. To use this function select the trigger you want to start the conditional actions and then apply and If to it by selecting the If icon from the Programming menu.

You can now set up the conditions you want to check via the If tab which appears.

Firstly you can decide whether you want the actions to occur if the condition is true or false by selecting the relevant case from the drop down list at the top. In most cases you will stick with the default True condition.

Next you select the variable you want to evaluate, again by selecting it from the drop down list. In the example above we have chosen SCORE_PERCENT as we are checking whether a user has reached a high enough score to move on. You then select the type of comparison you want to make – most commonly this is equals but in the case of scores you might want to use greater than or equal to so that users who have scored more than minimum are accepted. The comparisons available are: Equals – this is an exact match. Contains – allows you to search the answer for something Greater than – the number must be larger than the one specified (this does not catch numbers the same, only those greater) Less than – the number is smaller than the one specified (ignores numbers equal to the comparison) Greater than or Equal to – this will catch numbers that are both equal and greater than the comparison Less than or Equal to – this will catch numbers which are both equal to and less than the comparison. You can use these comparisons on text as well – and on single letters the results will be as expected from the alphabet. That is C is “greater than” A but when comparing whole words the calculation will be done on the ASCII value of the letters involved. The ASCII value is a code number given each letter for programming purposes. The main “alphabet” starts at 33 for A, 34 for B, 35 for C and so on through the alphabet. But note that lowercase letters are given different numbers to uppercase letters and that these are numbered after the uppercase numbers. Thus “a” will be “greater than” “A”. It will also be “greater than” “Z”. A full list of ASCII values is provided in the Help file. You can then set the information to check against by either typing it into the box provided, setting a specific number or by selecting another variable to compare it with.

Once you have set all these items you can apply them to the If statement by clicking on the Apply button. Note how the description of the action is updated to reflect what you have set.

If you are unfamiliar with the mathematical presentations of the comparison phrases they are as follows:

= equals < less than > greater than <= less than or equal to >= greater than or equal to You can now specify the actions you want to happen if this condition is met by adding them to the If statement. Select the If statement and the double-click on the icon for the first conditional action you require. The action will appear as a sub-branch of the If statement. It should not appear on the same level. In the example below the Show action and the Delay would be controlled by the If statement but the Go to Page (Forward) would not.

The above example checks to see if the user has got 50% or more questions right. (Note the sign >= indicating that the comparison we are making is Greater than or Equal to.). If they have then it shows the Congratulation message and waits for 10 seconds. The intention was that it would then move on to the next page. However in this example the publication will move on to the next page whether the user has scored 50% or not. To correct this you must move the Go to Page action into the If statement. Firstly you can select the Go to page action and delete by pressing the Delete key. Then add the action again in the right place. Select the If statement so that it is highlighted and then go to the Actions tab and add the Go to Page action as you would for any other trigger. Alternatively you can simply drag the action into the correct location as follows. Click on the Go to Page Forward action in the organiser and drag it into the list of actions beneath the If statement.

When the Delay action is highlighted release the mouse button. The Go to Page action will now appear in the list above the Delay action.

Obviously this is not the order of actions you require as the Congratulations message will not be displayed for 10secs before the publication goes to the next page. You will therefore need to move the action to the bottom of the list by pressing the down arrow on the toolbar at the top of the organiser.

Now finally the set of actions will be as required...

Else

Often when you are checking whether a certain situation exists before you perform an action, you will have other actions that you want to perform if that situation is not the case. In the example above you might want to send the user back to a page of revision before getting them to take the test again. Obviously you could set up an If statement to check the opposite case but Opus provides a simple way of combining the opposite case into the same statement by offering an Else action. Basically this allows you to say If XYZ is true then do these actions, but otherwise (Else) do these actions. As with the If statement you simply place the actions required below the Else statement. Thus, if we extend the example above we could send the user to a revision page if the had failed to score 50% or more.

Number Functions

Opus also provides all the basic maths functions (add, subtract, divide and multiply) and some other number functions (random numbers and rounding), which are all available via the Programming tab as detailed below. These functions can only be used with variables containing numerical values. If the variables contain text, the text will be lost and the variable content will be considered to be zero. Thus adding a value of 3 to a variable containing the value “My Name” will result in a variable containing a value of 3.

Basic Maths Functions All of these function work in the same way. When you add the action to trigger you have chosen a fourth top level dialog appears to allow you to set which variable is processed and how much you add, subtract, etc.

Select the variable you want to use the maths function on by selecting it from the drop down list at the top. Or use the Create New Variable button to create a new variable as explained in the chapter on Understanding Variables. Next choose whether you want to specify the number to be used for the function or whether you want to get that number from another variable by clicking on the relevant radio button. In the latter case you should then choose the variable from the drop down list provided. You can use negative numbers by using the minus sign and you can use up to 2 decimal places.

Add

Lets you add the specified number or the number in the second variable to the content of the first variable.

Subtract

Lets you subtract a number in the edit box or in a second variable, from the original variable.

Multiply

Using this action will multiply the content of the first variable by whatever number you specify or the number in the second variable if you choose that option.

Divide

Using this action will divide the content of the first variable by the number specified or contained in the second variable if that radio button is set.

Random Numbers There are often times when creating interactive publications where you might want to create a

random number, perhaps to ensure that a test paper is chosen randomly or to simulate dice in a game. Opus allows you to set a variable to be random number using the Random action from the Programming tab. As with other actions you will need a trigger for the action and then you apply the action by double-clicking on the icon in the Programming panel.

Another tab section appears on which you can set the options for this action. Firstly you select the variable you want to contain the random number or create a new one using the button provided.

Then you must decide on a range for the random number by specifying a maximum number (the range always starts at one). Thus if you put 64 in the Number box the random number will be anything from 1 to 64 inclusive.

You can also get the maximum number from another variable rather than specifying it yourself.

Note that you can perform other number functions on this random number to change it if required. To quickly create big random numbers for example you could multiply two random numbers together.

Round

This option allows you to round a number to a whole number rather than include decimal places. The number will be rounded down if the decimal fraction is below half otherwise it will be rounded up. Thus, for example, performing the Round action on 6.4 will result in 6; rounding 6.5 or 6.8 will result in 7. This function is performed on a number in a variable, which you can specify by selecting it from the drop down list. Note that the rounded number replaces the content of the variable so if you want to keep the original value you need to copy it into another variable using the Set Variable action described on page 368.

You can use this option to round a number to a set number of decimal places by combining the multiply and divide actions with the round action. Thus to reduce something to two decimal places multiply the number by 100, perform the round action and then divide by 100 to get your original number to two decimal places.

Drag and Drop

Opus includes the facility for any of the objects on your page to be dragged around the screen by clicking on them, dragging the mouse while still holding the mouse button down and then dropping that object onto other objects by releasing the mouse button at the appropriate time. This is often used as an interesting interactive way of answering questions. For example, you might ask the user to consider a series of statements and then drag each to the true panel or the false panel to say whether they think the statement is true or false as illustrated below.

Once you have created both the objects you want your user to be able to drag and the objects you want them to drop onto you need to set the objects to act appropriately. Go to the Drag and Drop tab of the Properties dialog for the objects you want to drag. In the illustration above this would be the questions. You may need to scroll the tabs using the arrows on the right in order to show the Drag and Drop tab.

Click on the This object can be dragged option so that it is on as illustrated below.

You can also specify whether the object should return to its original location if it is not successfully dropped.

Next you need to set the “drop zones” to allow objects to be dropped on them. In the example above this would be the panels labelled Drop True Answers Here and Drop False Answers Here. As you probably noticed this setting is on the same dialog as before and in fact you can set an object to be dragged around but also to allow objects to be dropped on to it. Go to the Drag and Drop tab of their Properties and select them to accept dropped objects by clicking on the This object can have other objects dropped on to it option.

You must now decide whether the object can only accept specific objects or whether it will accept any dragged object by selecting the appropriate option. If you want to specify a particular object or objects simply click on these in the list provided so that their checkbox is ticked.

Options You then also have a number of options for the behaviour of the object once dropped...

With this option on the object that has been dropped can be dragged around again. If this option is off the dropped object will “stick” to the object onto which it has been dropped. With this option on the object must not be wider or higher than the object on to which it is dropped. In other words it must fit within the bounding box of the object it is to be dropped on. This might be useful where the drop must be quite precise otherwise it should be off as it can restrict what objects you can use. With this option ticked the dropped object will snap to the centre of the drop area rather than stay exactly where it was dropped. This is useful where an object needs to be located very precisely and it might be fiddly to achieve by hand – in an on-screen jigsaw puzzle for example. Finally you can restrict the number of objects which can be dropped on this object by selecting the option illustrated below and then using the spin buttons to set the Maximum number allowed.

Responding to Drag and Drop Once you have set up the objects you want to drag and drop you can then set actions to occur as a result. The simplest way to do this is to make a particular action only occur when a dragged object is dropped onto another object. To do this you need to bring up the Actions property for the object acting as a drop zone and go to the Trigger tab. Select the Object dropped trigger from the Advanced Triggers subsection. Explore the samples provided with Opus to see this facility in action.

Irregular Hotspots

It is a common requirement in interactive multimedia projects to have an area of a graphic respond to the user’s mouse click. An example of this might be a map of several different regions of the country or countries of the world. Clicking on each of those regions would then launch a page specific to that area. One way to achieve this in Opus is to build the main graphic from a series of separate graphics to which their individual actions are attached. Note that, whatever shape the graphic is, the image object containing it would be rectangular, which probably wouldn’t be appropriate because the user could click on an area that wasn’t part of the image. Therefore, Opus provides the Ignore transparent region option on the General tab so that only the image area is responsive. You can edit the graphic from which you wish to create the hotspot using a paint program and also crop it down to the required size. You can now paint out any extraneous portions using a flat colour which is then set as transparent in Opus.

Hotspot Tool Alternatively you could simply draw the shape of the hotspot you want using the built-in Hotspot tool. This tool works in exactly the same way as the drawing tool described earlier in this manual, you can even set the outline and fill colour. The only difference is that the object will appear semi-transparent in the Opus editor (as a reminder that it is a hotspot rather than an ordinary object) and will not appear at all in the publication itself though the area it covers will be active and it can be given actions just like any other object. Thus you can quickly and easily draw all the preset shapes available for the drawing tool or use the freehand drawing tool to create an irregular-shaped hotspot. As with other objects drawn using this tool you can edit the lines afterwards (see page 90) thereby allowing a great deal of versatility and accuracy.

Training Materials and Scoring

Interactive multimedia is ideal for creating training materials that the user can pursue at their own pace. Opus contains a wide range of powerful tools for the creation of such training material, including the Question Wizard, which allows you to easily create multiple choice, text answer or numeric answer questionnaires.

Creating the Training Materials Creation of training material is no different to creating any other interactive publication using the facilities available within Opus. A number of different aspects of the program can be used in constructing a training publication such as: 1. Using graphics, buttons and animations within Opus to simulate processes,

controls or functions. 2. Display of video or animations to provide real world examples or to reuse

material from existing audio-visual training. 3. For training or help files for software packages, you could use the Launch option to actually run the software for the user. Then use a small windows and the Always on Top option

in Chapter Properties to keep step-by-step training sitting over the software to which it refers. 4. Alternatively, to demonstrate the use of software, you could use a program such as Camtasia to “film” the use of a software package and then replay it from within Opus using the Launch option. 5. Create multiple choice or other questionnaires to test how the learning is

progressing. Opus includes a Question Wizard that guides you through the process of setting up questionnaires and quizzes, including scoring systems and feedback to the user. You run the Question Wizard for each question that you want to include in the publication. You can run the Question Wizard to insert a question either by selecting Question Wizard from the Tools drop-down menu. Then follow the onscreen instructions to choose the type of questions, and the style and layout. A range of readymade template pages are provided to make building a quiz easy.

Question Page Wizard The Question Page wizard allows you to insert new question pages in your publication based on templates provided by Opus. Opus provides several different styles of pages for a publication, although you can change the look of all objects on the page if required to suit your own publication style and simply use the scoring functionality built into the page. As well as different question types you can create in the Question Page wizard, it also provides a Score Results page that will give you a score total for all the questions contained in the publication. Adding questions to any publication can be useful, especially for computer based training or e-Learning publications to consolidate a users learning experience. The Question Page wizard is particularly useful if you want to include questions quickly in your publication. However, once you gain experience in Opus, you will be able to create a variety of other question types very quickly, for example, drag and drop questions, Input response question, re-ordering lists questions, and so on. There are several types of questions you can create in the Question Page wizard, these are: Image Questions, Multiple Choice and True False questions – see Question Types in the Question Page wizard in the Help file for more information.

Using the Question Page wizard: 1. Select Question Page Wizard from the Tools menu at the top of the

Opus Editor – this will open the Question Page wizard. 2. On the first page of the wizard, select the page style from the Choose a style list. Select the thumbnail of the style you want to use, then click the Next button to continue. 3. On the second page of the wizard, select the Question Type or Score Page you want to create, then click on the Next button to continue. The Question Type’s available are: Image Questions, Mutiple Choice and True False. The Score Page available is called Score Results – see Question Types in the Question Page wizard in the Help file for more information. 4. On the third page of the wizard, select the Question Response you want to insert as a new page in your publication. Select a Question Response from the list, then click on the Finish button – Opus will insert the selected page after the current page displayed in the Page View.

The list provided on this page will be different for each Question Type you selected previously (point 3 above). For example, if you select the type True False, then the only two possible responses by the user to this question type is either True or False. Therefore, the Question Response list on this page will only provide two pages, one where the true answer is correct (the True/False True Correct page) and one where the false answer is correct (the True/False False Correct page). Once you have added a Question Page template to your publication, you must type the question and answers into the boxes provided on the new page – see Using Question Pages in Opus in the Help file for more information.

Advanced Training and Quizzes The following sections explain how to use the in-built functions to create your own questions.

Tests with Scores and Weighting The question wizard provided with Opus is designed to create a test that gives answers in terms of scores not in terms of correct or incorrect. However, this latter form of test is simple enough to achieve without a wizard. You can even add weighting to the answer where there is more than one correct answer. There are basically two types of questions available in Opus. Firstly the question where several alternative answers are presented on screen and the user clicks on the answer or answers they think are correct. The second type of question is one where the user types the answer into a box.

Questions Requiring User Selection For the first style of question simply create the appropriate text objects to

represent the question, for example: “Who were the founders of Microsoft?” and then create objects or buttons for as many answers as you want. They can be pictures, movies or just text, for example:

1. Paul Allen 2. Bill Gates 3. Alan Gates 4. Bill Bates

For each of the incorrect answers create an action for the text object which scores them as incorrect. To do this simply right-click on the text object, choose Edit Actions from the right-mouse menu and then go to the Store Score action tab and click the Incorrect radio button.

For the correct answer follow the same procedure but check the Correct radio button instead.

There is no need to create special variables to hold the scores as these are built in to Opus. You can also give a score to this correct answer by setting the Total Value at the bottom of the dialog to the appropriate amount.

Where you have more than one correct answer you can add use this score value to add weighting to each answer to give higher scores for the more difficult answers. In the example above only one answer is correct but in the following two answers are correct.

1. Steve Allen 2. Bill Gates 3. Paul Allen 4. Bill Bates Most people will know that answer 2 is correct but fewer will also choose answer 3. You might therefore want to score the two answers as well as just noting them as correct. To do this edit the action for the each of the correct text objects, go to the Scoring tab and apply a Store Score action and select Correct as before but this time set the Total Value for the two correct answers to different amounts.

If you want to keep a tally of the user’s score out of a total possible score you can use the Partially correct option. You will need to use the If action to check whether they got both correct answers or one or the other. In the first case you will score the answer as Correct with the Total Value but for the second two options you will score each Partially correct with a particular score out of the total possible score. Here are some example settings for a pair of correct answers with a weighting of 3 and 7 respectively.

Don’t forget to disable questions and answers once they have been clicked on using the Disable Object action, otherwise your user can simply click each answer to ensure the correct one has been chosen or can repeatedly click on the correct answer to boost their score.

With a question like the one above with two answers you may wish to use push- on – push-off style of buttons to set or unset a variable to say if they have been chosen. This would allow the user to change their minds before moving on to the next page, at which point a button would check which variables were set and score accordingly. Check the example publications on the CD-Rom or the website for working examples of this.

Questions Requiring User Input The second style of question is one that requires the user to type the answer in rather than select it from a list of options. The advantage of this is that there is no choice of answers to prompt the user. The disadvantage is that testing for the correct response becomes much more difficult. As we shall see below you need to save the question into a variable and check this variable against another variable containing the correct answer. However, the user may type an answer which is correct but which is not typed in quite the same way as you expect. You can use the Translate Case options on the Input tab for the input text box to ensure to avoid problems of comparing text with different combinations of upper and lower case letters but consider the possible answers to the question example above.

1. Bill Gates 2. W. Gates 3. William Gates 4. Mr W. Gates Are all legitimately correct answers for only one reply. This type of questions is therefore best restricted to questions where you can require an answer of just one or two precise words such as chemical names. Alternatively it is most useful for simply recording users replies to questions in a text file on disk for subsequent manual evaluation or for import into another program.

Random Quizzes You can create games, quizzes and tests that ask questions in random order by creating a chapter which holds only the questions and putting each question on a single page. The use the Random page option on the Go to Page function (see page 179) to work through these pages randomly. Several examples of publications with

various styles of questions are provided on the CD-Rom.

Scoring

Opus looks after scoring for you by storing values in a set of pre-defined variables. The variable SCORE_CORRECT contains the number of questions answered correctly, the total number of questions answered is stored in SCORE_TOTAL and the percentage of correct against incorrect answers is stored in SCORE_PERCENT. A running total of the score value is stored in SCORE_VALUE. Note that SCORE_CORRECT and SCORE_VALUE will contain different values if you defined scores other than 1 for correct answers in the Question Wizard. You can display current score values for the user by inserting these variables into text boxes on the page. You can reset values to zero by attaching this as an action to an object such as a button. This is defined on the Score tab of the Actions dialog. You are also able to store score values to disk using the Store tab of the Actions dialog. This would enable score values to be retained even if the publication was exited. See the Understanding Variables section in Advanced Techniques for more information on this.

Tracking User's Progress The simplest way to track a single user's progress is by recording a bookmark at each page they reach. However this is not very sophisticated and is no use where there is more than one person using the same training material. It is therefore more effective to use a combination of variables and the Write to Disk File action in the Storage section of Actions dialog. One example of how you might combine these would be to open the publication with a text input box requesting the user's name which you store in a variable as explained on page 282. Then set up actions on each page, or for each question that store comments in this variable or another appropriate variable.

Collating Information You can collate information by storing the contents of a variable in another variable or a text file using the Add to existing contents option when using the Write to Disk File or Set Variable actions.

Handling Fonts

One of the biggest problems when creating publications containing text is the use of fonts. If you are distributing your publication widely and your user does not have the same fonts installed as you do then Windows will substitute an alternative font. This substitution is often not particularly successful and will result in a significant change in the appearance of your publication, particularly if it occurs with the headings of your publication. Furthermore it may even result in your text being too big for the frame containing it so some will not be displayed. To avoid this problem, Opus includes font rendering and embedding which will build a copy of the required font into the publication. This will, however, add to the size of your publication and you may wish to switch it off for some publications where you know the fonts you have used are present on the user's system or where space is critical. Alternatively you can set Opus to render some fonts and assume others are present. These options are available via the Settings button on the Publishing Wizard.

Opus and the Internet

Opus provides support for and connection with the Internet in a number of ways.

HTML Support The current standard of HTML, even with Dynamic HTML is simply not capable of displaying all the sophisticated things you can do with Opus. For this reason, HTML is not directly supported in Opus. However, you can still create web sites and web material by via the Publish option.

Publishing on the Internet Using the Create Publication for the Internet on the Publish Wizard allows you to publish your work on the Internet exactly as it appears on your computer. When you have completed the publishing process you will also be given the option to run the Upload Wizard, which takes you through the process of actually uploading the finished publication to your web site by following a series of straightforward instructions. As detailed in the earlier section on publishing (see page 266), this feature uses the Plexus streaming web plug-in. This file is

automatically downloaded and installed from the Digital Workshop site when the user first accesses the publication, although your user may already have it as it only needs to be installed once. The plug-in is certified by Thawte Certification for security and the user is asked to accept installation before it proceeds. This plug-in will then extend Internet Explorer or Netscape and allow them to play Opus publications without the compromise of HTML. It is carefully designed to download only those portions of the publication it needs and will then download the remainder in the background while your user reads the current page. Therefore optimum results will be obtained if the publication has a very small first page, perhaps using text and drawn vector objects and that the rest of the publication is divided up into small sections. You should also try to avoid a publication which allows users to jump around too much as this will mean more and more material has to be downloaded for Opus to cover all the requirements.

Although you can display video in such a publication it will probably try your visitor's patience too much to be practical except for the most interesting video. If you want to put action on your web page just for the sake of making it interesting you should use animation and small slideshows similar to those provided by animated GIFs.

Publishing to Macromedia Flash You can also publish publications in Macromedia Flash format by selecting the Opus Flex publication type. You can do this when you create a new publication or you can convert your existing publication by selecting Opus Flex from the Type tab of the Publication Properties. Please note, however that some of the functionality provided by Opus is not available via Flash or requires additional code in HTML or PHP. If you convert an existing publication some functionality may be lost. If you start a Flex publication from the beginning the functions which are not supported should not be available. As with any publication, however, it is always worth testing the key principle of your work before spending a great deal of time creating something only to find that one piece doesn't quite work the way you wanted it to and all the work has been wasted.

Including Active Internet Links You can also include active Internet pages directly, either by simply creating hyperlinks in your publication or by actually including a Browser Viewport on a page.

Hyperlinks An Internet hyperlink to jump to an Internet address can be attached to any object as an action. The most common way of presenting such a link would be to use a piece of text, perhaps a web address or URL. This text should be selected and then converted to a piece of hypertext by selecting Hypertext from the Text menu. On the Actions dialog for this object go to the Launch tab and click the Launch Internet option. Then type the address you want to go to in the box provided. Take care to get the address exactly right or the connection will fail.

The same action could also be on a button labelled with the address or a graphic representation of the web or your home page. In both cases the Launch command will automatically launch the user's default Internet browser, connect and go to the URL you have given.

This option does requires some a web browser such as Internet Explorer to be installed.

Browser Viewport Opus also allows you to incorporate a fully active view of the Internet by drawing a Browser object on your page just like any other object. This is equivalent to having Internet Explorer without its toolbars and relies on Internet Explorer being installed on the computer. The page will function exactly as it would if it was being displayed in Internet Explorer and allow the user to explore the Internet in the same way. The Browser Controls on the Actions dialog can be used to control the browser, providing the same functionality as the similar controls in Internet Explorer such as Stop, Back and Home.

Understanding Variables

Variables are a fundamental component of programming languages but as implemented in Opus they need no programming skills to use. They can be simply thought of as pigeonholes in the computer's memory where you can temporarily store information that you might require later. This might be a user's name, a record of progress, an order or a score. Variables are so-called because they can vary during the time the publication is being used. You

can set up actions that will change the information in a variable and then set other actions to only proceed if the information in a variable matches a condition you set. Some variables can be set to be “persistent” that is other pages can use them, whilst others can be restricted to specific pages which means if you try to use them elsewhere in the publication they will not be visible. The Set Variable action allows you to set the information in a variable and the If action lets you make an action dependent on what is in a variable. Both of these items are available on the Programming Actions tab.

Creating a Variable Opus includes some built-in variables to store scores for the internal scoring facility and to provide access to the system time and date, but you will also want to create your own for other purposes. This can be done at almost any point where you use a variable by clicking the New... or Create New Variable button, most commonly when you use the Set Variable action to make the variable available to the program. Alternatively you can also set up all the variables you think you will need via the Variables tab on the Properties for a page that also lists all the custom variables available on that page. Click the Add button to create new variables. This will call up a simple New Variable dialog and you simply type the name of the new variable in the edit box provided. Note that you cannot include spaces in the variable name and we recommend you use capital letters throughout so that variables are easy to spot in text. You do not need to put the angled brackets, < >, round the name. These only need to be used when typing the variable name into text.

When you are not creating a variable specifically for a page you will be given the option to make the variable a page variable or a publication-wide variable.

Next decide whether the variables should contain text or should simply be a number. Note that you can type numbers (as text) into the text field but a number variable will only ever function as a number. Any attempt to include text will result in a number created from the ASCII values for the text. For text, click on the Text option and simply type what you require in the box provided.

For a number, click on the Number option and type into the edit box or use the spin buttons for the number required.

You then need to decide whether the variable should be restricted to use on this page only or whether it should be available to the whole publication by clicking the relevant option on.

Set Variable The Set Variable action on the Programming tab lets you tell the publication that a variable is available for use and to give it a value at that point. Variables need to be used with care as it can be easy to get information in a variable changed to a value you were not expecting and this can give your publication “bugs”. Also variables are not stored on disk unless you explicitly write them to disk using a Write to Disk action. Apply the Set Variable action to a trigger event just with any other action. The fourth tab appears allowing you to select which variable you want to change and how. Select a variable from the drop down list or create a new one by pressing the New... button.

Next decide whether the new information should overwrite what is already there or simply add on to the end of it.

You can then set the item of the variable to some text, a number or copy the content of another variable.

Set Variable to Expression The Set Variable To Expression action on the Variables tab is very similar to the Set Variable action, in that it lets you... 1: tell the publication that a variable is available for use and to give it a value at that point. 2: change the value of a variable which already exists. However, there are two differences between the Set Variable to Expression and the Set Variable action: 1: the Set Variable to Expression action uses an OpusScript expression to create the content of the variable/ 2: the expression can include variables created in Opus and variables created within an OpusScript program. You must apply the Set Variable to Expression action to a trigger event just like any other action. When the action is selected, a ‘Set Variable to Expression’ tab will appear after the Programming tab in the Actions dialog.

1: Select a variable from the drop down list or create a new one by pressing the New... button.

2: Next decide whether the new information should overwrite what is already there or simply add on to the end of it.

3: You can now enter your expression in the Script Window...

In this example, the string ‘Welcome to Opus’ has been concatenated (i.e. joined together) with a variable called userName. This variable could have originally been created in another OpusScript or as a global or page variable in Opus.

Changing the Variable You can edit the information in a variable by using the Set Variable action described above. You will need to take particular care to decide whether you wish to completely rewrite the information in the variable by checking the Overwrite contents option or simply add it to the existing information. Remember, if you are adding information to the existing content you will need to include carriage returns in the text you store if you want information to appear on different lines.

Combining Information

You can combine the information in one variable with the information in another by using the Set Variable action. Select the Variable option as the source of the information and check the Add to existing contents option so that the information from the first variable is combined with that already in the second. Note that this will change the contents of the first variable to the combined information. If you want to retain that information separately you should use the process above to combine the information in the first variable with an empty third variable, then repeat the process adding the information in the second variable to the third variable.

Storing Variables to Disk The information in a variable is only stored temporarily. When the publication is closed the information will be lost unless you save it to disk. To save the information held in a variable to disk, simply go to the Storage actions tab. You can choose to write the variable to a disk file, to a disk-based text file (useful for storing information you wish to display subsequently using a text object rather than displaying the variable itself) or you can write it to the registry. The first two options should be used with care to ensure that your publication knows where to find the file you have written. The registry option is the most secure but is only really suitable for small pieces of text and numbers. Once you have selected the type of storage action you wish to take you can then simply select the variable you want to store from the drop down list at the top of the panel and then set the disk file name or the registry label where you want it stored. See Actions: Storage for a full explanation of these actions.

Conditional Branching You can use information in variables to make actions only occur when certain conditions are met. This can be useful, for example, for restricting access to certain parts of a publication in response to a password typed in by the user, or for only allowing a user to move on once they have scored a certain number of points. This is explained in further detail in the Conditional Actions chapter.

Variables on Buttons

Text can be typed onto the face of a button. Now you can also insert a variable as part of the text or to replace the text. This is particularly useful if you want different text to appear when a user clicks on a button, especially if the button is a radio or push on/off type.

To add a variable to a Button object: 1. Right-click on the Button object to open the right-click menu. 2. Select Insert Variable from the list of options – this will open the Insert Variable dialog. 3. Select the name of the variable in the Insert Variable dialog and click on the OK button. The name of the variable will appear on the Button object surrounded by < > brackets. When the publication is previewed, the contents of the variable will be displayed on the button and not the variable’s name.

Built-in Variables - A Glossary Opus comes with a number of variables built-in allowing you easy access to some of the more commonly required variables. These are described in the following sections.

Chapter_Password Using this variable limits access to the desired chapter. It allows the recipient type the correct password into a text input box rather than a windows style password box. If the password is correct, Opus will allow access to the designated chapter, providing a go to page action is set. If the password is not correct, or an action not set, access is denied. This variable is for use with the password feature found in Publication Properties which must be set to Don’t Prompt – use Chapter_Password

option.

Scoring

SCORE_CORRECT Use this to give you the number of questions which have been answered correctly, e.g. 5 out of 7 questions.

SCORE_PERCENT Calculates the percentage of questions which have been answered correctly, for example 6 correct answers out of 10 questions would produce a score of 60%, 6 out of 15 questions would be 40%.

SCORE_TOTAL Calculates the number of questions the recipient has attempted to answer, whether that answer was correct or not, e.g., there are 10 questions, the recipient has attempted to answer 7 but only got 4 correct, the score total would be 7.

SCORE_VALUE Calculates the total value of the allocated scores that have been answered correctly. For example, the recipient must answer 4 questions with scores allocated thus: Q1 = 1, Q2 = 3, Q3 = 5 and Q4 = 2. Only the first three answers are correct, so the score value would be 9. If all answers were correct, the score would have been 11.

TOTAL_VALUE Keeps track of the total value of available points not the total actually scored.

System Information There are a number of variables to provide information about the current system, which can be useful for specifying locations for files as you can type these variables in front of a filename as long as you place them in angled brackets and add the final backslash, thus...:

...will save users.txt into the current user's My Documents directory.

SYSTEM_USERNAME Provides the current Windows' user name.

SYSTEM_WINDIR Provides the directory where Windows is installed.

SYSTEM_WINSYS_DIR Provides the location of the Windows' System directory.

SYSTEM_PUBLICATION_DIR Provides the location of the current Opus publication.

SYSTEM_PROGRAMS_DIR Provides the location of the standard Program Files directory

SYSTEM_DOCUMENTS_DIR

Provides the location of the current user's documents directory.

SYSTEM_CD_DRIVE Provides the drive letter of the first CD-Rom drive on the system e.g.: D: All of the above require backslashes to be added to them if you are going to create a path to a file with them.

Dates and Time The following variables are fairly self-explanatory and give you accurate dates and times. The values of these variables are set by the date/time settings on the end-users system, and are not defined by the Opus publication. These variables may therefore be reset or altered by the end- user. These are contents of these variables are numbers except where indicated.

PUBLICATION_TIME Denotes the number of seconds that the publication has been running for – use this if you want to time the publication, perhaps to synchronise it with your narration.

SYSTEM_TIME_YEAR Provides the current year according to the system setup e.g. 1999.

SYSTEM_TIME_MONTH Provides the month e.g. May. This is shown as a word, not a number.

SYSTEM_TIME_DATE Provides the date e.g. 02. This is shown as a number.

SYSTEM_TIME_DAY Contains the day of the week, e.g. Fri. This is shown as a word.

SYSTEM_TIME_HOUR Holds the hour of the day in twenty-four hour format, e.g. 23 for 11pm

SYSTEM_TIME_MINUTE Denotes the minute of the hour, e.g. 39

SYSTEM_TIME_SECOND Provides the second of the minute, e.g. 45

Customising Opus

Many aspects of the Opus editor can be customised to suit your way of working and there are several options that can be set as global preferences. Any changes to the settings you make are automatically stored for when you use the program again.

Workspace You can resize the various windows that make up the Opus workspace by simply clicking on the bar that separates them. When the cursor changes to a splitter control...

...simply click with the left mouse button and drag the divider to where you want it:

then release the mouse button and the two panels will resize to this new position:

If you only use one of the additional panels occasionally you can remove many elements of the Workspace including the Organiser or the Palette bar or both. You can do this either by clicking on the small close box in the top left or right corner of the panel you no longer require:

or by clicking the relevant option from the View menu.

Toolbars There are several toolbars in Opus including the ones that are displayed by default. To see which are available and which are on view you can select Toolbars... from the View menu. This brings up a dialog listing the toolbars and indicating with a check which ones are visible.

To show or hide any particular toolbar simply click on the tick box to check or uncheck the item. You can also do this by right-clicking in any of the grey areas on the toolbar and this will allow you to quickly decide which toolbars are visible. Also note that this dialog allows you to specify whether the toolbar will Show Tooltips. These are prompts identifying the toolbar button when you leave the mouse cursor over the button momentarily.

You can also specify whether you want the “Cool Look” which is the more modern style where the toolbar buttons are entirely flat until the cursor is over them when they take on the standard embossed appearance.

This option also displays the toolbar graphic for each function in the menus.

Customising the Toolbars You can also customise the toolbars by selecting Customise from the Tools menu. This brings up a tabbed dialog with one tab providing the options on the Toolbars dialog above.

The other tab, labelled Commands offers a list of the categories of commands available and the toolbar buttons representing those commands on the left.

You can add any of these command icons to an existing toolbar by simply clicking on them and dragging them to the toolbar you want them to appear on. You can remove commands already on toolbars by clicking on the toolbar button you wish to remove and dragging it onto the Customise dialog. The toolbars section of this dialog also provides a New button to allow you to create an entirely new toolbar. It will first prompt you for a name for the new toolbar and then display a small blank toolbar onto which you can drag the commands you require in the way described above. Any of the toolbars can be moved from their positions and left to float freely over your publication or dock in another part of the window. Simply click on the toolbar and drag it to where you want it.

Options Opus provides a comprehensive range of options or preferences that you can set to specify how certain aspects of the program should work. These are accessed via Options on the Tools menu, which brings up a dialog with two sections. The first is a tree view of the various categories of options and the second is the options for the selected category. Most of theses options are only used very occasionally and we recommend you use the context-sensitive Help available for each to understand them. Simply go to the Option you wish to know about and click the

Help button.

The options cover how the program starts up, the size and colour of selection trackers and nodes in node editing. You can set preferences and defaults for many of the settings on Property dialogs and for creating backup files of your publications. Some of the most useful options are highlighted here.

Spelling This tab provides access to the various options for the spell-checker. You can select the language to be used for checking by selecting it from the drop down list.

You can also decide whether the spell-checking should be performed as you are typing – in which case it will be underlined with a wavy line using the specified colour

You can also build a User Dictionary of words and phrases not in the standard dictionary. This will usually be used for names and places that you use often or for technical words. A number of the options are concerned with what sort of words should be ignored when running the check, including, for example, domain names.

You can set the checker to take the case of the word into account.

You can also set what sort of suggestions it makes when it finds an unknown word.

View This section of the dialog allows you to specify various aspects of the display in the editing environment including setting the Grid and Outline settings. The facilities provided are as follows:

With this option on any new page or publication view will open in the Editing Window in a new separate window. This will result in several windows being open in the editing workspace at once, allowing you to work on two or more pages at a time which can be particularly useful for reference, or for copying material between pages. With the option off, the page currently being edited will always replace the one previously displayed and no new windows will be opened. This can be useful if you find you have a tendency to open too many windows and forget to close them.

This allows you to tell Opus to open a page view immediately on selecting the title in the Organiser rather than requiring you to double-click.

This option will automatically scroll the view of your page if you need to draw or resize an object further across the page than is currently on view. As the cursor reaches the edge of the window the page is scrolled so that it more becomes visible.

You can also choose not to show the object contents while dragging them around in the editor if you feel this is slowing the editing process.

You can set a colour for the outline used when objects are displayed in outline mode and specify whether the name of the object is displayed in the outline box to help you identify it.

You can do the same with objects which have no content and are therefore invisible.

Grid Settings The right-hand side of the dialog is taken up with controls for setting up the grid used to help keep objects aligned and consistent. You can set the spacing for the dots or lines which make up the visible grid and specify whether the actual grid should be the same as the visible grid or a fraction of it (allowing you to have a finer grid than it would be sensible to display).

You can also specify whether to use dots or dotted lines for the grid and what colour these should be.

Tracker Size Finally you can set the size of the bounding box which appears around the objects when they are selected. This also controls the size of the resizing handles. It can therefore be very useful for children or the people with disabilities in allowing the control areas to be greatly increased.

Default Font

This tab provides a standard font selection dialog, which allows you to specify the font that is used by default when a text object is first created. This will be used for both static and scrolling text objects.

Default Button Font Like the preceding tab, this tab provides a standard font selection dialog, which allows you to specify the font that is used by default when a button object is first created.

Tools Setup This tab allows you to set up independent programs which will be used to edit the resources in Opus.