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Audio-Subtitle Manager

Creating menu to select Audio or Subtitle is not that difficult. Set some buttons that links to *Set Subtitle* or *Audio* option, then place a button to go back or play a movie.

But that's just the beginning. Using menu switching, menu cloning, Group hot-spots, VM commands and few other neat DVD-lab PRO tricks we can create as complex manager as we want. In this tutorial we will use many advanced techniques to build a very interesting check-box menu where two things can be selected at the same time.

The text bellow refers to DVD-lab PRO.

Design

First let's design the Setup menu so we know what functionality we need. For this we need VTS menu (not a VMG). We used only DVD-lab objects and effects.



On this menu we want to be able to setup both audio and subtitles by using sort of check box system. A currently selected item has a little ball in its box. Also we used Lens flare to make each ball more light-like. We should be able to navigate through the screen (using underline) and when we press Enter the new settings get selected. The menu must be

smart, that means only one Audio can be selected and only one Subtitle can be selected.

Break-Down

Let's still work on this menu. To be able to have item underlined we need to draw a thin rectangle under each text and then set it as *Invisible Normal*. Because we want to have highlighted also the text with the underline, we need to put a Group Hotspot around both invisible underline and the visible text. The Group Hot Spot will become our button.



One word of advice: Start placing the Group Hotspots from first button in this order:

- | Original Sound
- | Music Only
- | English
- | Commentaries
- | OFF
- | and at last BACK.

This will make the *Original Sound* our first button and make our life easier later.

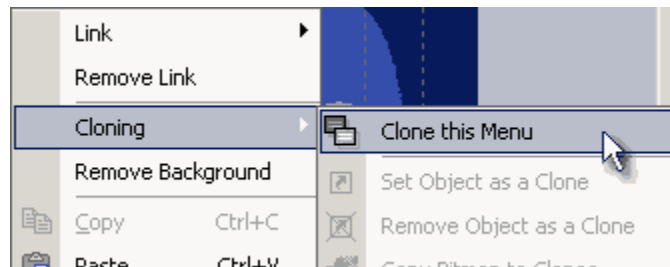
Tip: When you need to select object behind another object, use Alt - click.

It is important to make the menu as complete as possible before we start cloning it.

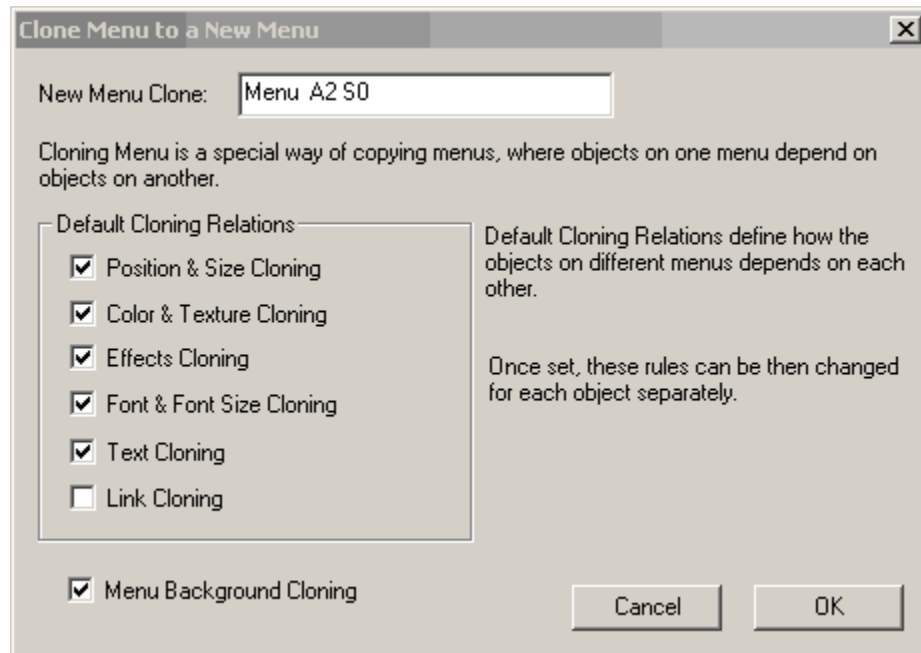
Cloning menus

A cloning menu is a process that will make all cloned menus synchronized. Changing one menu will change all others. Let's first have some rules for naming. We will call the first menu "Menu A1 S0" which means Audio 1, Subtitle Off.

Let's clone new menu this will be "Menu A2 S0. Right click on the menu window to open pop-up menu and select Cloning - Clone this menu.



This will open a Cloning Relations set-up.



We will keep default values which say that everything except links will be cloned. That means if I for example change color or move one item on Menu A, all other menus will change the object colors or move it.

After the cloning we will have two menus:

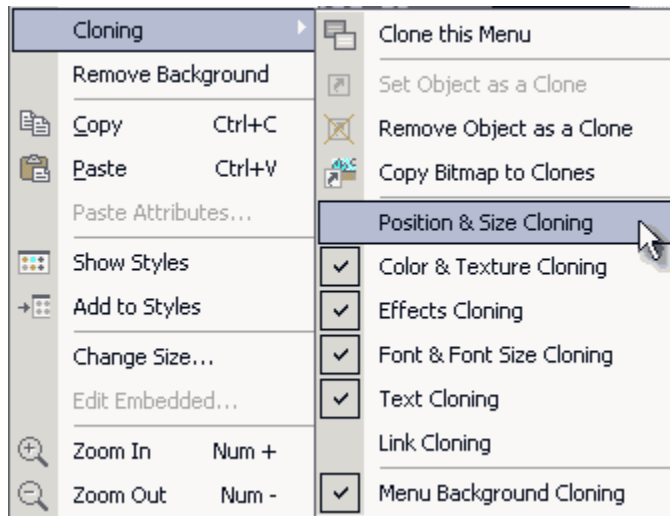


Of course I am sure you are curious how the cloning works so move or resize any object on any menu and watch it get changed on the other menu. Ok, stop playing, we have a work to do.

Obviously the Menu A2 S0 can't stay same as the previous menu. We need to put the ball from Original Sound to the Music Only check box. But oops,

if we move the ball it gets moved also on the first menu! We have to bend the cloning rules for the ball.

That's very easy, select the first ball and right click on it. From pop-up menu select Cloning. Now the submenu is much more active:



We have to uncheck the Position & Size Cloning from this ball object. (On the image above it is already unchecked)

We now bend the default rules. The ball can be moved on each menu separately. We now move it to the Music Only check box. Since we added also Lens flare behind the ball, we have to do the same for the lens flare - Bend the rules - uncheck Size & Position cloning, and move it to new place. If it is Locked, you will need to unlock the Lens Flare first in the Link tab (Lock position)



Now we need more menus!

To have all combinations, we need 4 more clones. Since we already have 2 a little different menus we will clone from menu "Menu A1 S0, two additional menus A1 S1 and A1 S2. From menu A2 S0 we will clone A2 S1 and A2 S2.

That should cover all combinations.

On menus ..S1 and ..S2 we have to move the other ball to the correct checkbox. Again, Bend the rules for the second ball and the Lens flare and move them to correct position. We have to move the ball to the same position on menu A1 S1 and A2 S1 and also on menu A1 S2 and A2 S2. To get the ball to the same position you can use Change Size tool (Right click menu) that shows us the exact position of the object.

Here is what we have so far:



Now let's look at the menus in more details:



You can see, the menus cover each combination.

A first task is done.

Links

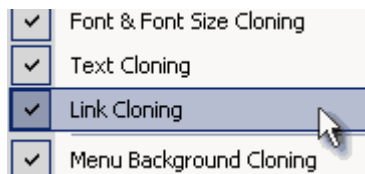
Looking at the combinations, there will be a lot of links. From each menu we have to get to the correct menu.

We will talk about buttons and links from them. But remember we wanted to combine text and underline so we create the underline "invisible Normal" and place a Group Hotspot over both objects. By saying for example *Original Sound button* we mean in fact the Group Hot spot placed over the Original Sound text and the *invisible normal* underline.

Let's start with the one link that is going to be same on all menus. This is the Back button. We previously placed a Group Hot Spot over both objects the hand and the text. Select the Hot Spot.



Since we are now cloning pros, let's use this to our advantage. Let's bend the rules for this link but this time we will add Link Cloning rule to this hotspot.



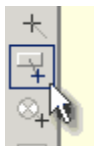
That means any time we add a link to this hotspot, it will be changed on all menus. Let's try it. Add a link to this hotspot to some "main" menu (we didn't make this menu yet in this tutorial, but it is a typical menu with play, setup and features buttons)

You can see in connections all menus now link to main through back button. That's the amazing power of cloning.



This was only a small exercise. The real fun starts now.

A best way to set-up button links would be through Connection window using the Draw Button links button.



If you don't know how this works, you better learn since you will be using it a lot. You simply draw an arrow from one menu to another and as you do a small menu screen will appear with buttons of the first menu. You select from which button you wanted the link.

Let's try first to link the menu in second row, the A2 S0. Let's draw button link from A2 S0 to A1 S0. Pressing which button on the A2 S0 we should get to A1 S0 menu? Answer: The *Original Sound* button!



OK, let's move one button down on menu A2 S0. We have Music Only button and already with a ball. Where to link? To itself. While this may look strange we do this only so we can have the buttons selectable, even if it doesn't link anywhere. It would look strange to user if on each menu these buttons will be skipped so we will have them there. We cannot set link to itself with Draw Button Link, but we can set the link by dragging Menu A2 S0 over the group on Music Only.

We can continue. A2 S0 to A2 S1 will link through button Subtitle English and to A2 S2 through button Commentaries.

Last button is subtitles OFF. There is a ball on it so we do it as with the Original Sound button, put link to itself - to menu A2 S0.

So far we have menu A2 S0 linked. Here is a summary:

Original Sound - Link to A1 S0
 Music Only - Link to itself - A2 S0
 English - Link to A2 S1
 Commentaries - Link to A2 S2
 OFF - link to itself - A2 S0

We have to link each menu one by one.

Let's go up to our first menu A1 S0.

Original Sound - Link to itself - A1 S0
 Music Only - Link to A2 S0
 English - Link to A1 S1
 Commentaries - Link to A1 S2
 OFF - link to itself - A1 S0

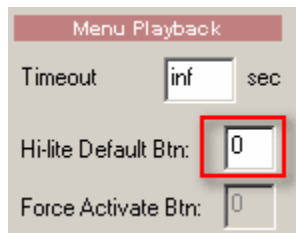
And so on...be careful.

The last thing before we can try this is to make sure the default highlighting stays always on the item from which we linked. This is why we insisted on creating even the links on items that just links to itself. On each menu is the button order the exactly same. 1 is Original Sound ... 6 is Back button.

If you somehow mess with button order and have different order on each

menu you will have big trouble to keep the highlighted item in its place.

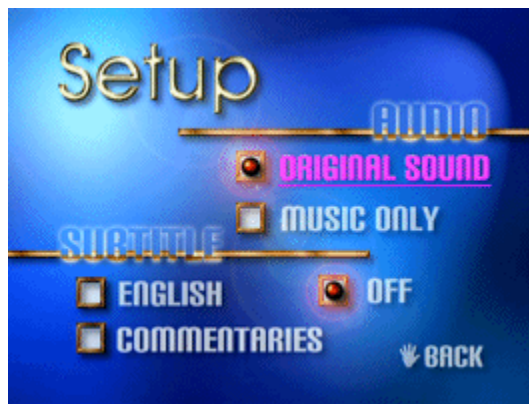
So how we do if user click for example button Music Only that the Music Only will stay selected on the next menu? Very simple we will set the Hi-lite Default button on PBC tab to 0 on every menu!



Zero will not change the button selection. If we are on item 2 on menu A and link to menu B, the item 2 will stay highlighted on this menu as well.

Now, while we are far from finish, it is time of our first test. Put a link from Main menu to Menu A1 S0 and put some short movie so we can compile it.

How did it go?



In my case I only forgot one link (Menu A2 S1 OFF button to menu A2 S0), but otherwise it works jut fine!

The VM Commands

While our menu already works, it still doesn't do anything - there are no commands. Here we will use another trick. We will not add commands to buttons, since they are already occupied with the menu switching dance.

We will add commands to the menus PRE command area. How is that possible? Simple. Each menu already determine the exact state of Audio and Subtitle. We don't need to know what buttons we pressed. The menu itself is the correct answer.

So in menu A1 S0 we will open VM Commands and in PRE commands area write:


```
GPRM0 = 0
SetSTN (subp=GPRM0:off )
SetSTN (audio=GPRM0 )
```

Menu A1 S0 sets first audio stream (audio =0) and switch off the subtitles. We can set GPRM1 = 0 Just look at the image of the menu and it is clear what state it represents.

In menu A1 S1 we will have:

```
GPRM0 = 0
GPRM1 = 64
SetSTN (subp=GPRM1:off )
SetSTN (audio=GPRM0 )
```

This uses a small trick. We need to set first Subtitle to ON. Now a VM commands: SetStn (subp=64:off) or SetStn (subp=0:on) both does the same thing - set the first subtitle ON. (64 simply means 0:on, 65 means 1:on etc..) It would also work with GPRM1=0 and SetSTN (subp=GPRM1:on)

Etc. You can see the complete list at the end of this page. So what we done so far is almost full functionality. Whenever we jump to a menu the correct Subtitle and Audio settings are set.

Selector

It is almost done, but a small thing is missing. If we change audio/subtitle from remote control during watching movie and then go to the setup menu we will see selected wrong items. The menu is not aware what are the current settings.

That needs to be changed. We will create an Setup Entry point that will choose the correct page from the current audio/subtitle settings. We will always call our setup menu through this entry.

All we need is VM Command object. We need to create it in the same VTS domain.



A following VM code written in the VM command will read the current subtitle and audio setting and then call the correct menu.

```
GPRM0 = 1024
SetHL_BTN GPRM0
GPRM0 = SPRM1
```

```

GPRM1 = SPRM2
GPRM0 *= 100
GPRM0 += GPRM1
if (GPRM0 == 64) LinkPGCN 5
if (GPRM0 == 65) LinkPGCN 6
if (GPRM0 == 100) LinkPGCN 4
if (GPRM0 == 164) LinkPGCN 7
if (GPRM0 == 165) LinkPGCN 8
LinkPGCN 3

```

It is important to realize that the VM object uses constant numbers in LinkPGCN. That means if you have created the menus in different order or you have other than "Main" menu before these numbers will be invalid.

Our layout is here, with the PGC number in circle.



For info, we can here put the part of the command using Menu names instead of PGC numbers, but note this is not a valid VM code.

```

if (GPRM0 == 64) LinkPGCN Menu A1 S1
if (GPRM0 == 65) LinkPGCN Menu A1 S2
if (GPRM0 == 100) LinkPGCN Menu A2 S0
if (GPRM0 == 164) LinkPGCN Menu A2 S1
if (GPRM0 == 165) LinkPGCN Menu A2 S2
LinkPGCN Menu A1 S0

```

All we have to do now is to link to the Setup Entry from Main menu! We can also enclose the menus and VM command into Component, set the VM Command object as Component input and Save the Component for future.

Cloning Rules!

Do you want to get a taste of the Cloning Power? On any menu Double-click the Text object "ENGLISH" to open text editor. (you may want to do it in layers window since it is covered by HotSpot) Write a new text for example "SPANISH", then press OK. The text on every menu will be changed. Similarly you can move objects, change their color or even replace background. The cloning will make sure the menus stays in sync.

The complete description of menus and VM commands.

Thanks to the Report feature in DVD-lab PRO I generated the HTML report for the whole project where you can check the VM Command on each menu and also see the links.



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