

## Application Note 256 Video Scoring with BIOPAC Basic Scripting

This application note describes how *AcqKnowledge* Media and BIOPAC Basic Script functionality can be used together to facilitate the placement of markers in the physiological data record that correspond to events from a video or audio recording. There may be a number of events in the video/audio recording that must be coded for.

**BIOPAC Basic Scripting** is a scripting language development option for executing, authoring, and debugging BIOPAC Basic scripts. It allows for viewing of runtime variables, creating new script files and editing existing script files, triggering of individual script functions for testing and single step functionalities.

Scripting functionality is available through an optional license available with *AcqKnowledge* 4.1.1 or above. The Scripting license must be authorized to access Script functionality. Scripting is available for Windows 7 or Vista and Mac OS X 10.4-10.6. Rich dialog development is supported for users with Qt SDK 4.5.0 or higher. The Scripting license enables the Script menu, adds the Calculation channel Preset "Run Macro", links the **BIOPAC Basic Reference** under Help, and adds Preferences for Scripting.



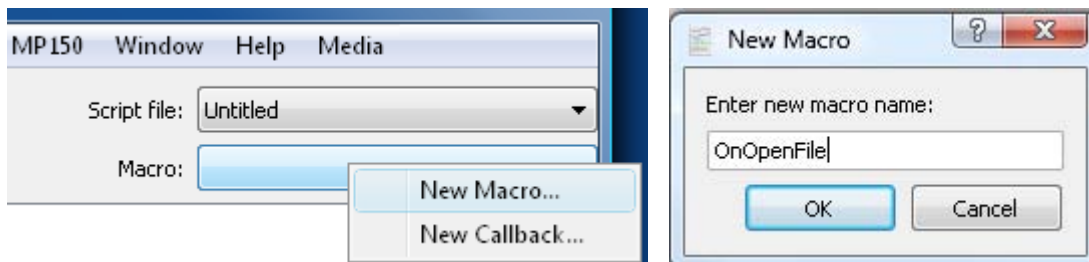
This application note example assumes there is a video of a participant interacting with an experimenter and that the researcher wants to place markers in the data record every time one of the following events occurs:

- The experimenter mimics a movement of the participant
- The experimenter leans forward
- The experimenter asks a challenging question
- The experimenter leans back

Procedure:

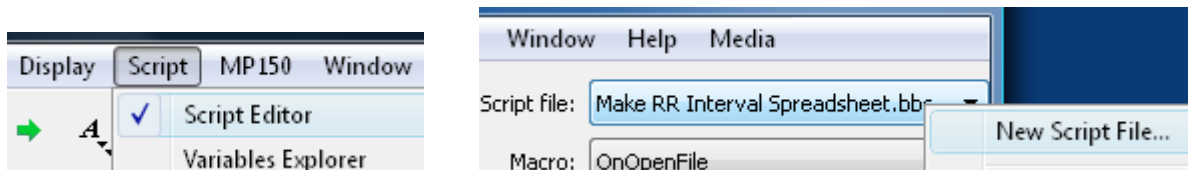
Create four new script files scripts, each designed to place a stimulus delivery marker with a different label

1. Create a new Macro and name it OnOpenFile.



2. Create the script to encode the first marker:

- a. Open the script editor (Script-> Script Editor) and create a new script file by clicking on the Script file drop-down menu and choosing the first option – New Script File.
- b. Repeat for each required script file.



- c. Enter the following text:

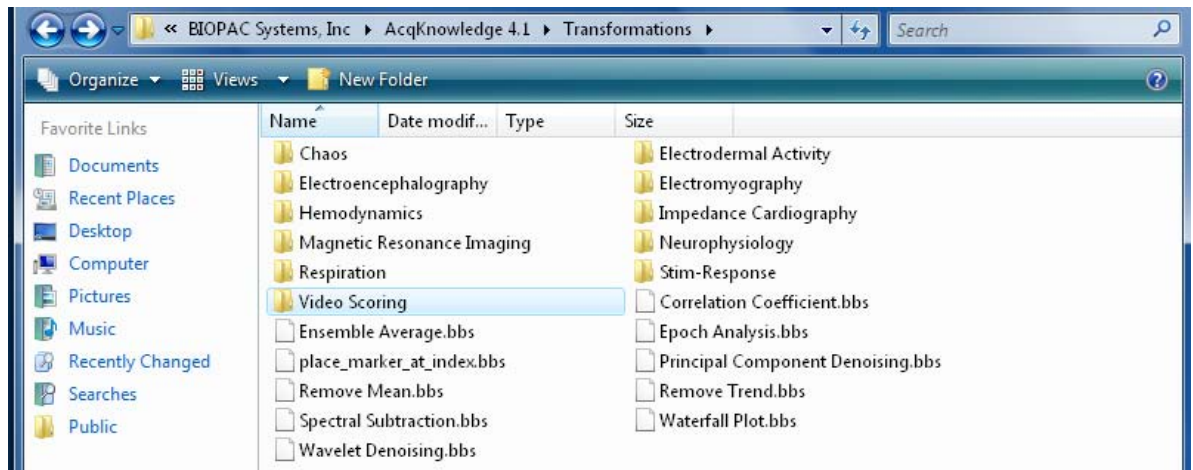
**InsertMarker " Mimic movement",1, "stim"**

**End**

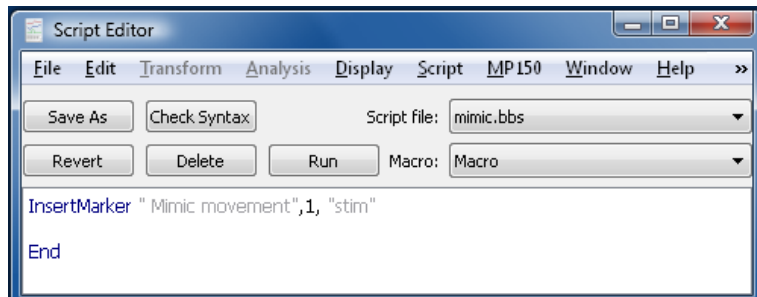
- d. Save the file as **mimic.bbs** in the following directory:

C:\ProgramData\BIOPAC Systems, Inc\AcqKnowledge 4.1\Transformations\Video Scoring

- If the folder “Video Scoring” does not exist, create it before saving the file. The contents of the Transformations folder should look like this after the Video Scoring folder has been created:



- After the file has been saved, the Script Editor window should look like this:

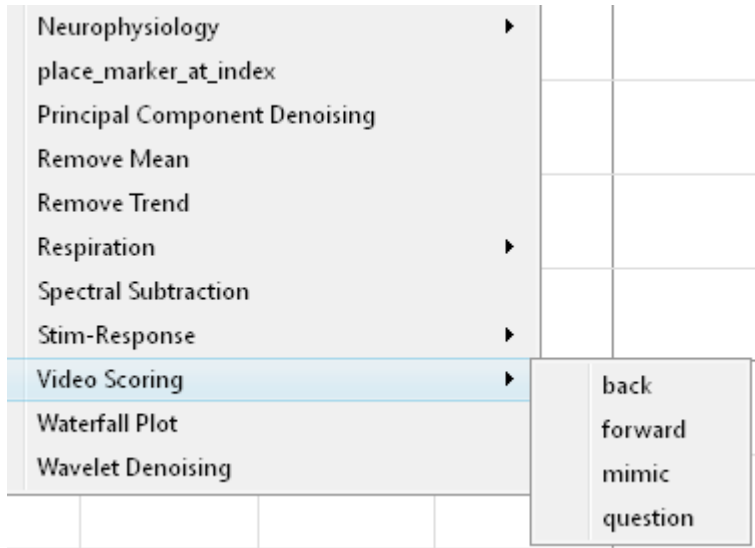


3. Create the script to encode the second marker
  - a. Replace the first line with the following:  
**InsertMarker "Question",1, "stim"**
  - b. Click Save As and save the file as **question.bbs**.
4. Create the script to encode the third marker
  - a. Replace the first line with the following:  
**InsertMarker "Lean forward",1, "stim"**
  - b. Click Save As and save the file as **forward.bbs**.
5. Create the script to encode the fourth marker
  - a. Replace the first line with the following:  
**InsertMarker "Lean back",1, "stim"**
  - b. Click Save As and save the file as **lean.bbs**.

The contents of the Video Scoring folder should resemble this::

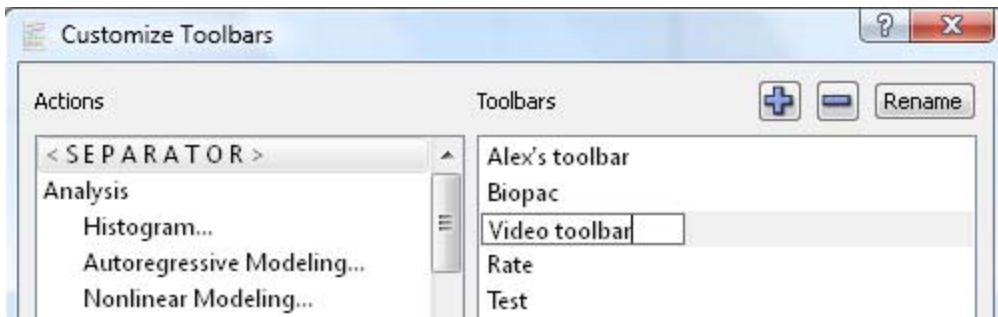
Name	Date modified	Type
back.bbs	5/16/2010 11:48 PM	BBS File
forward.bbs	5/16/2010 11:48 PM	BBS File
mimic.bbs	5/16/2010 11:47 PM	BBS File
question.bbs	5/16/2010 11:47 PM	BBS File

6. Restart AcqKnowledge. When the software relaunches, "Video Scoring" will be a new Analysis submenu:

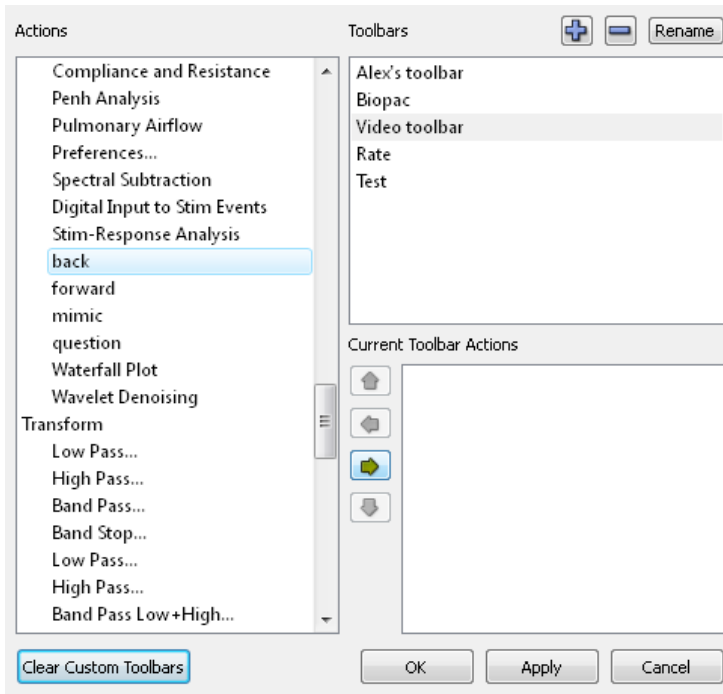


7. Next, create a toolbar with these four scripts as separate buttons.

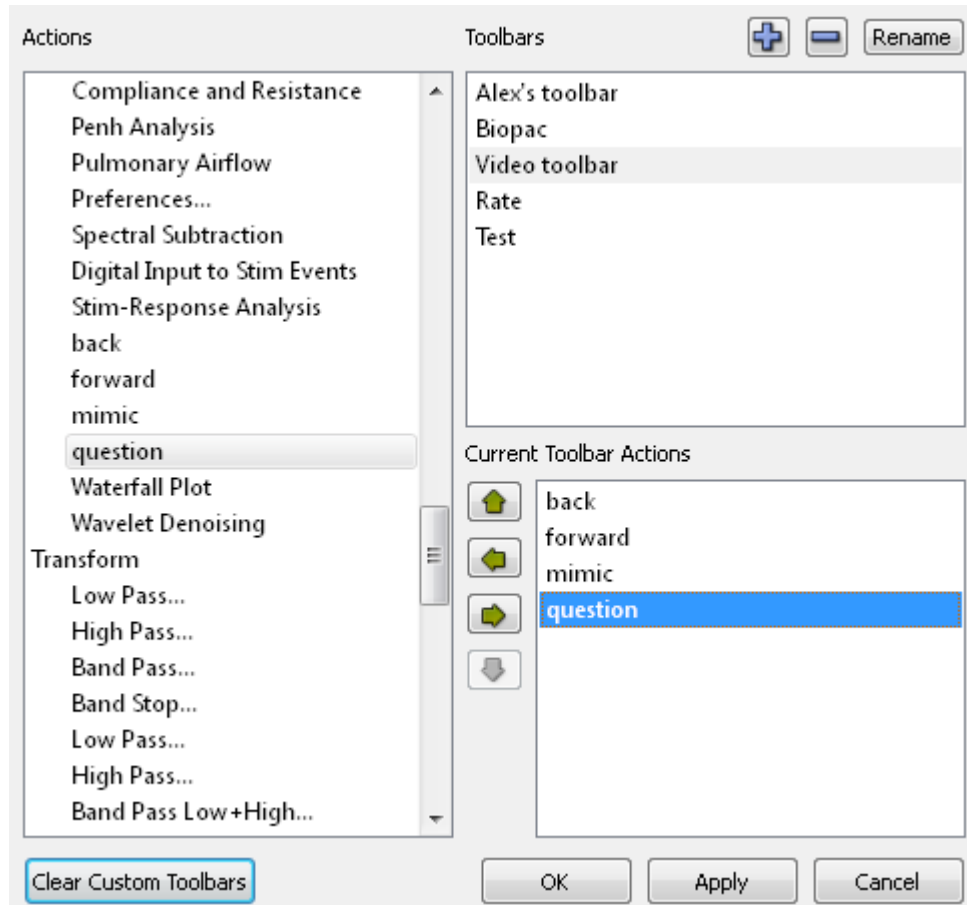
- a. Go to Display->Customize Toolbars.
- b. Create a new Toolbar using the Plus sign and call it Video Toolbar:



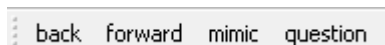
c. Move the four new scripts to the toolbar window on the bottom right using the arrow keys:



- The end result should look like this:



- d. Click Apply and then OK and the new toolbar will be displayed. It will look like this:



- e. If desired, drag it on top of the data window:



If video/audio playback is started at this point, clicking the buttons in the toolbar will result in automatic placement of the desired marker at the place where the cursor is located when the button is pressed.

Since video playback moves the I-bar cursor along with the video for synchronized recordings, the video/audio can be monitored to place a marker when a certain event occurs.

- The position of the marker can always be adjusted later via the Event Palette (Display > Show > Event Palette) or by holding the Alt key and dragging the marker.

It is recommended to read about the Media feature in the *AcqKnowledge* software manual (available under the **Help** menu) for instructions on how to obtain synchronized video/audio recordings.

Here is a screenshot of video playback on the bottom with the toolbar buttons and the associated physiological data recording on top.

