

Quick Study Guide to GriffinVC

GriffinVC -- Video Coding Software

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Print this Guide or save it on your computer desktop to refer to it as you follow the instructions.

Suggestion: Before beginning this exercise create a folder to use when working with GriffinVC. Possibly save it on your Desktop with a title such as *Video Coded Projects*. This will enable you to organize and store material as your projects develop -- videos, ethograms, Excel sheets, notes, etc. Use named and dated subfolders within this folder for separate projects. For this exercise place and store the video you would like to use for this exercise in the folder.

Download the GriffinVC Program

If you do not have the VLC Media Player on your computer, or have one that is out-of-date, download the VLC Media Player to your computer. Use this official site to avoid viruses. <http://www.videolan.org>

Note: Mac users must install the VLC Media Player by downloading and then dragging the VLC icon into the Applications Folder.

Click on the web link <http://github.com/svirs/griffinVC/releases>

For the PC (Windows) under Downloads find and click on the file griffinVC_installer.

For the MAC under Downloads find and click on the file griffinVC.app.zip.

When the download is complete, select OPEN. The griffinVC_installer should appear. Run. Use Browse to select your Desktop as the Destination folder. Install & Close.

Note: Mac users may need to alter their security setting to allow the program to run.

Save the GriffinVC shortcut on your Desktop.



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The GriffinVC short cut will remain on your computer and is now available for use for this exercise and future coding projects. Click on it in order to continue to start a new project or work on an existing project. The Icon should remain on your desktop and, unless you notice updates at the site, <http://github.com/svirs/griffinVC/releases>, the program need not be reinstalled.

Instructions for Use of the GriffinVC Coding Program

Step 1. Prepare to Record

When you click on the GriffinVC shortcut the image below appears. Select New Project.



With the instructions: "Please select a folder and create a new file to store this project's data." Click OK to find the folder placed on your Desktop earlier to store your projects, e.g. the one you may have named Video Coded Projects.

Enter the name of the File that you will use for your current project, for example: Seahorse, or use the video ID & date.

When you press Enter, three windows will appear –a Video Player Window, an Ethogram Configuration Window, and an Observations Window.

Note: Previous, unfinished versions of the project are available in the folder under the same name with different dates.

You will use the Video Player Window in learn to use the *Player Functions*

Minimize the Ethogram Configuration and the Observation Windows leaving the Video Coding Window. Load the video to be used for this exercise.

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Suggestion : When learning to use the Player Functions observe the video to create a list of potential subjects and behaviors (states and events) of potential interest to be used for the development of a project ethogram.

Step 2. Player Functions

The counter below the video enables you to move back and forth through the video and select where in the video to start or restart coding. The slider just below the counter to the far right controls the volume of the video player.

Use the [play/pause] button to stop the video if it is playing; to restart it if stopped. For accuracy up to 0.03 seconds pause the video and adjust the frame to the beginning of a behavioral state or event.

Use the [frame_forw] button to move forward by 0.03 seconds; to step by a single frame. Set the [hop_back & hop_forw] interval to 1 second or less and move back one second before the transition and [frame_forw] until the exact time of the initiation of a behavior of interest.

The video speed (between the [add] and [enable speed] buttons) is initially set at 1.0 (the level at which the video was recorded). You can change the speed by use of the arrows to the left of the box.

Note: The speed changes are relative. For example, if 0.5 is entered or typed into this box the video speed will be reduced to half its original speed; if 2.00 is entered the video will play twice as fast.

Click the [enable speed] button to accept the new value. This button will turn blue indicating that the speed has been adjusted. Click the enable speed button again. It will turn white, the video will return to normal speed. Note, however, that the white button will continue to show the changed speed. This enables you to switch repeatedly between real and the slower or faster motion that you have set white button.

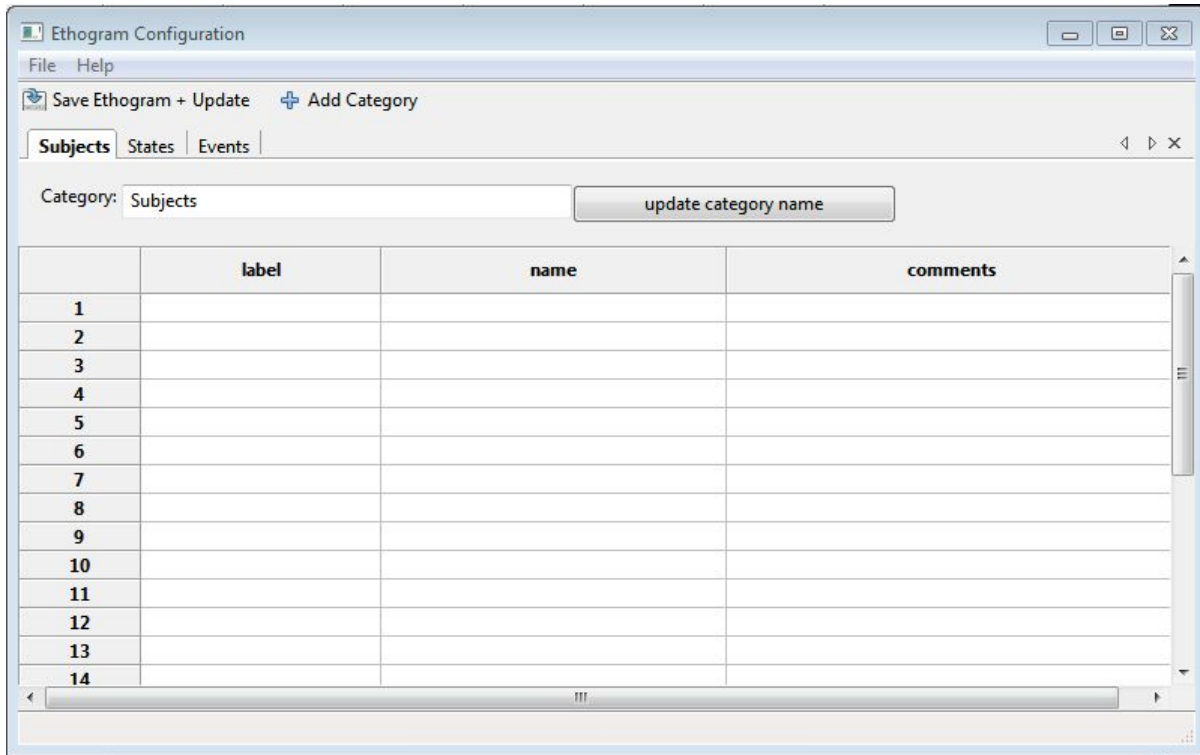
In order to repeatedly examine two frames separated in time, that is, to repeatedly move (hop) back and forth between them, adjust the time in the white box located between the two hop buttons [hop-back] and [hop-forw]. For example, if the default value 0m:0s was changed to 2m:15s, then clicking the [hop-forw] and [hop-back] buttons will move the video forward or backward 2 minutes and 15 seconds in time.

Click the [add] button to make a record of the time at which a state or event (behaviors of interest to the research question) begin. This will update the Observation Window with the exact time the [add] button was pressed.

STEP 3. Create the Ethogram

Open the Ethogram Configuration Window—these categories create the subject and behavior lists that drop down from the time-marked cells in the observation log. These lists of behavioral codes are called pick lists. Choosing a label in the pick list using a mouse is easy but slow; once coders feel confident, they can key in the behavior using the first two letters of the behavior or modifier label (create labels in which the first two letters are distinct (labels: cl_climb and cp_clap distinguish climb and clap).

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The ethogram creates a list of behavior for time-coding behaviors of interest that are relevant to a research question. Behaviors are divided into categories. Typically: Subject, States, Events and, in some cases, Modifiers (such as objects, body parts, direction of movement). Other categories may be added by clicking on [+Add Category].

1. Subjects The agents whose behavior is to be recorded.
2. States Mutually exclusive behaviors that continue and for which the duration is relevant to the analysis.
3. Events Behaviors that occur within states for which only frequency is relevant
4. Modifiers Place, movement pattern, objects of actions that add relevant detail to states and events

The sample Ethogram Configuration window shows the three categories typically used in creating an ethogram – Subjects, States, Events. Click on the appropriate button if you will be coding for Subjects, States, or Events. To add additional categories click on [+ Add Category].

To add additional rows right-click on the row in the column of labels—choose [*Insert new line below*]

To delete a row right-click on the row and choose [*Delete label*]

1. Fill in the Subject Category: Create a list of key codes for each subject in the *label* column—the first two letters of the name or a number (k_Kanzi, s_Spot, etc.), a name or descriptive identifier of the subject in the *name* column and pertinent information in the *comment* column (species, sex, stage of life, wild or captive born, location, date of birth, etc.).

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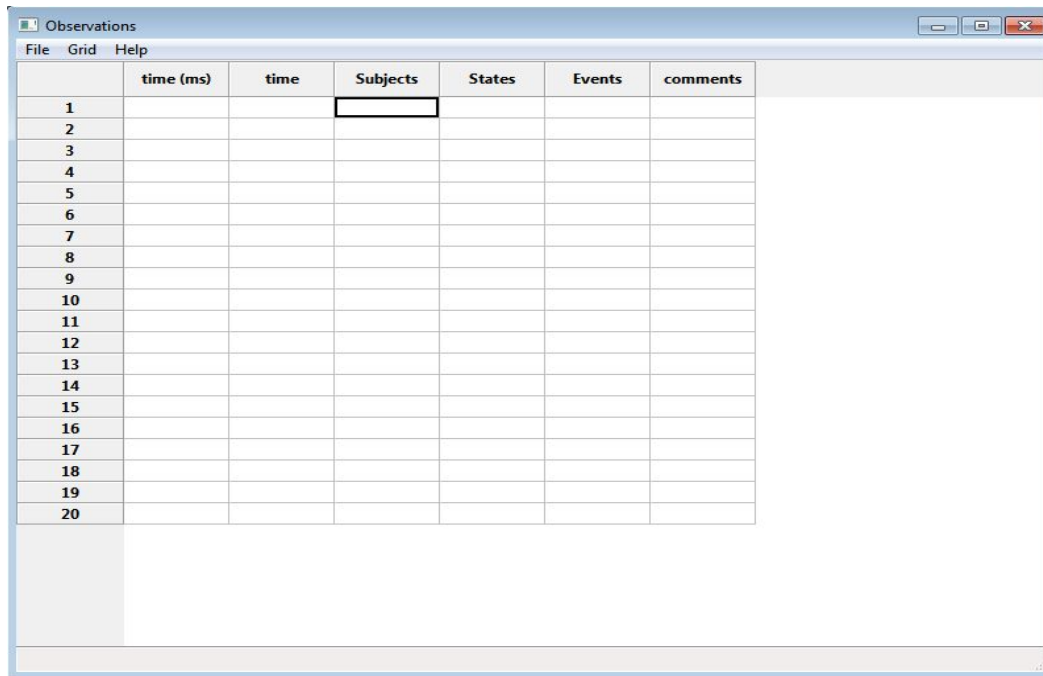
2. Fill in the State Category: List mutually exclusive behaviors with significant duration relevant to the questions asked about activity budgets. Create a key code for each behavioral state in the *label* column where only frequency of occurrence is important (fo_foraging, vi_vigilance; co_courting—give the fuller descriptive name of the state in the *name* column (foraging, courting ritual, vigilant looking and guarding) . Give a full definition of these states in the *comments* area such that others might use these codes reliably. Note: a subject must always be in some state in order to budget the time spent in each state. *Off-camera, unengaged, unknown, other* are useful categories to keep an activity budget when a coder cannot see the subject or the state is not relevant to the research questions.

3. Fill in the Events Category: List of behaviors that take place within States for which frequency information is sufficient for the analysis. Create a key code for each behavioral event in the *label* column where only frequency of occurrence is important (bt_bite, ht_hit, hj_head jerk; give the descriptive name for the event in the *name* column. Give a definition of these behavioral events in the *comments* area such that others might use these codes reliably

4. If necessary, create additional Modifier Categories: New modifier columns can be created on the spreadsheet by clicking on [+ Add Category] and inserting a modifier name in the box opened after the [Events] tab on the line above the spreadsheet. Modifier labels and names (e.g., participants, gait, body part, orientation, signal type) are labeled, named, and described similarly to other categories. Note: Modifiers should be clear and exclusive for the purpose of easy time-marked coding. Multiple modifiers relevant to the same event or state (such as objects, gait, location of action, signal type) need to be in different modifier categories.

A draft of the Ethogram should now be complete: [**Save Ethogram + Update**]. This will update the Observations window with the ethogram categories and codes you have entered. Save this ethogram as a printable file by clicking on the [File] tab & choosing [Save ethogram] it will automatically be sent to the Video Coded Project folder as an .xls file.

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	time (ms)	time	Subjects	States	Events	comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Coding a behavior of interest on the video begins with a click on the pause button and setting the video picture frame over the beginning of an action. Clicking on the [add] button or the lower-case a on the keyboard will enter the exact time the event occurred within the Observation log window. This window is set up in the form of an Excel data sheet that can be exported into Excel for analysis (see below). The first two columns record the exact time of the click or key press in mille-seconds and in minutes/seconds. One of these columns can be collapsed to save space.

Note: You can use the same ethogram for related videos, thereby, creating a separate observation log for each video in the project folder. New subjects, states, events, and modifiers can be added to the ethogram when they appear, but be careful about adding states and events as it may mean that previously coded videos must be recoded. Remember to hit the [Save ethogram and update] tab every time the ethogram is changed.

The Ethogram configuration can be changed while coding a video. However, you should have a fairly complete ethogram prior to coding.

STEP 4. Use your ethogram to code the video for which it was created.

1. Click on the video screen and go to [File] on the tool bar. Select [Open Video]
2. Drag your Observation Log next to the video screen or, if you are using two monitors, move it to the next monitor so that screen and log are both visible. Maximize your view of the video while keeping only the relevant columns in the observation log visible.
3. The Pick list (the complete list of all subjects, states, events, or modifiers) should drop down when the coder double clicks on a cell under a category column after that row has acquired a time-stamp.
4. In the Video Player window, get as close to the onset of the behavior in the video as possible (using [pause], [hop-back] and [frame-forw] for states when necessary) and then click on [Add or a] to set the exact

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time in the Observation log. Once the time-stamp appears, click on the cells in the subject, state, event columns in that row for the appropriate pick list (comments that can be typed into the Comments column).

5. Coding is tiring especially when everything is unfamiliar. Be sure to save your work often in the Observations window by clicking [File] then [Save Data]. The log will be saved in the appropriate Video Project file.

Minimize the Ethogram Configuration but leave it open while coding, so that you can make changes if absolutely necessary.

Missing a behavior event or a change of state is not unusual if the activity is dynamic. These errors can be corrected; hit pause the video at the beginning of the missing action, click on [Add or a], fill in the codes from the dropped pick lists.

Go to [Grid] on the tool bar and click on [sort by time] to organize any re-coded behavior by time-mark. Sort by time will reset any code inserted in the wrong sequence in the time column to its proper place in the sequence.

The program also allows you to delete entire rows of time marked code—and resort the log by clicking on [Grid] and choosing [sort by time].

Note: A project may consist of many videos using the same ethogram configuration in which video observations coded and filed as {obslog_video-file ID.txt}. This may be exported to separate Excel files identified by their video ID. These Excel files can be analyzed separately and/or combined and analyzed in a single Excel file.

The screenshot displays the GriffinVC software interface. The top window is the 'Observations' window, which contains a table of coded behaviors. The table has columns for 'time (ms)', 'time', 'subjects', 'states', 'events', and 'M1 body part'. The data is organized by time, with rows numbered 1 through 26. The 'subjects' column shows '1' for all entries. The 'states' column includes 'bubble activity', 'off camera', and 'general activity'. The 'events' column lists various behaviors like 'bubble cloud', 'bubble ring P', 'tail flip', 'follow ring', 'swipe ring', 'surface', and 'ignore ring'. The 'M1 body part' column shows 'rostrum' and 'tail'. Below the 'Observations' window is the 'Ethogram Configuration' window, which has a 'File' menu, 'Save Ethogram + Update', and 'Add Category'. It also has a table with columns for 'label', 'name', and 'comments'. The 'label' column has numbers 1 through 8, and the 'name' column has 'Bailey' and 'Foster'. The 'comments' column has 'age____, male' and 'age____, male'. At the bottom is a video player window with a 'play/pause' button, 'add', 'enable speed', 'frame_forw', 'hop_back', '0m/0s', 'hop_forw', and 'file: VTS_01_1.VOB dir: VIDEO_TS'.

	time (ms)	time	subjects	states	events	M1 body part
1	8260	0:00:08.26	1	bubble activity	bubble cloud	
2	10096	0:00:10.09			bubble ring P	w
3	10114	0:00:10.11			tail flip	
4	13161	0:00:13.16			bubble cloud	
5	14345	0:00:14.34			bubble ring P	sr
6	15127	0:00:15.12			follow ring	
7	19257	0:00:19.25			swipe ring	rostrum
8	20432	0:00:20.43			bubble cloud	d
9	21599	0:00:21.59			tail flip	
10	21916	0:00:21.91			bubble ring P	sr
11	23099	0:00:23.09			follow ring	
12	25257	0:00:25.25			swipe ring	rostrum
13	27185	0:00:27.18			bubble cloud	d
14	27636	0:00:27.63			surface	rostrum
15	27699	0:00:27.69			tail flip	
16	27967	0:00:27.96			bubble ring P	w
17	28076	0:00:28.07			follow ring	
18	31990	0:00:31.99		off camera		
19	42813	0:00:42.81		bubble activity	bubble ring P	
20	42859	0:00:42.85			follow ring	
21	45731	0:00:45.73			swipe ring	rostrum
22	47869	0:00:47.86			bubble cloud	d
23	47957	0:00:47.95			surface	
24	48526	0:00:48.52			tail flip	
25	48599	0:00:48.59			bubble ring P	sr
26	49090	0:00:49.09			follow ring	
	51947	0:00:51.94			surface	
	53342	0:00:53.34			follow ring	
	53389	0:00:53.38		off camera		
	54242	0:00:54.24		general activity		
	5334	0:01:02.33		bubble activity	bubble cloud	
	1015	0:01:10.01			bubble cloud	
	1084	0:01:10.08			tail flip	
	1246	0:01:10.24			bubble ring P	sr
	1534	0:01:10.53			ignore ring	
	1090	0:01:11.09			follow ring	
	1812	0:01:12.83			swipe ring	rostrum
	1664	0:01:13.66			modifier change	d
	1162	0:01:16.16			surface	

Category:	label	name	comments
1	1	Bailey	age____, male
2	2	Foster	age____, male
3	3		
4	4		
5			
6			
7			
8			

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To export your observations to Excel or any spreadsheet program, click on [File] then [Export to .xls file] in the Observations window. Be sure to save your file as an .xls program.

To exit use the Video Player, click [FILE] choose [Exit All]

To return to a project that you have begun

1. Choose [**Continue Project**]. Go to the Video Project folder and click on the project name to bring up the Ethogram & Observation data sheets + the video screen and the last associated video.
2. If you are starting to code a new video for a continuing project that consists of videos taken on different days and/or at different sites with the same or new subjects, click on [**New Project**] Identified by the general project name and new video ID, then click on File in the Ethogram Configuration window and then click on [**Import from another data file**] to re-use an ethogram for a new project.
3. Add any new subjects to the ethogram without deleting any and click on [**Save Ethogram + update**] into the new observation file.

Begin coding as before.

