# Working with Reaper: concatenating mp3 files

Before beginning in Reaper, you should have gone through these steps:

- a. Been assigned a ticket to create mp3s from Jan
- b. e-mailed Grace to request the files with this subject line format: lecture files for LIS (or IMT, etc) XXX needed
- c. Checked in your N:\Project Folders\Staff-GA Shared Folders\Grace\_Jan\_GSACrew\yourname\instructorname folder to see the zipped folder or folders
- d. Extracted the zipped folders [note: if there are more than 5 zipped folders, extract the folders in batches instead of all at once].

Next, go to the Reaper site and download the product. <u>http://www.reaper.fm/download.php</u>

You will also need a copy of **lame\_enc.dll** to put into the main Reaper folder once the program is installed, found in the GA wiki documents library.

Once Reaper is installed, open the program. You should see a screen with dialog boxes that looks something like this:

click on both **Close** buttons.

# Using the program

### 1. from the Insert menu:



choose **Media File.** The default browser window will appear. Note that it's inside the Reaper folder under Program Files.

2. Add a shortcut inside this default folder that goes to your GA folder on the N: drive as displayed here.



3. Once you have made a shortcut, navigate in this window to the folder where Grace has put the zipped lecture folders. If you don't see anything in the folder, go back to Windows Explorer and make sure you have extracted the folders first, so that Reaper will be able to use the contents. You should see folders like this:



4. Open one of the unzipped folders, which will have multiple subfolders and files. Open the **data** subfolder.



5. Select all of the mp3 files inside, but not any other files. [NOTE: If there are mp3s that are out of order, or some are "missing," you'll need to check that the sound file order matches the order in the slide show. Go to steps 5a. and 5b.]

Name	Date modif	Туре	Size				
퉬 thumb							
a24x1.mp3							
▶ a24x3.mp3							
a24x4.mp	3						
a24x5.mp	3						
a24x6.mp	3						
a24x7.mp	3						
▶ a24x8.mp3							
a24x9.mp	3						
a24x10.m	р3						
a24x11.m	р3						
a24x12.m	р3						
a24x13.m	р3						
a24x14.m	р3						
▶ a24x15.mp3							
a24x16.m	р3						
a24x17.m	р3						

5a. **[optional: see step 5 above.]** Check the correct order of the mp3s by going opening the **data** folder you are working on in a new **Windows Explorer** window. Open the **viewer.xml** file. If you are more comfortable with XML Spy, that program will open the file by default, otherwise you can right-click on **viewer.xml** and choose **Open in Wordpad**. In Wordpad, **viewer.xml** looks like this:

```
🗒 viewer.xml - WordPad
 File Edit View Insert Format Help
 口 🖆 🔒 🎒 🔖 🙏 👗 ங 🋍 松 🗉
                                  а,
  k?xml version="1.0" encoding="utf-8"?>
  .
<presentation width="720" height="540" start="play"
  buildNum="5.1.269.269">
        <presentationTitle>Assessment</presentationTitle>
        <presentationDescription>Types of assessment
  </presentationDescription>
        <speakers>
              <speaker>
                    <name>Lorraine Bruce</name>
                    <speakerTitle>Lecturer</speakerTitle>
                    <email>lbruce@u.washington.edu</email>
              </speaker>
        </speakers>
        <backgrounds>
              <background url="Master80000026.swf"/>
              <background url="Master80000025.swf"/>
        </backgrounds>
        <search url="srchdata.xml"/>
        <slides>
              <slide id="256" frameRate="30" totalFrames="207"
  advance="auto" type="normal">
                    <content url="Slide1.swf"/>
                    <slideBackground index="0" frameToPlay="1"
  duration="2" showAfterFrame="0"/>
                    <slideTitle>Module 4 </slideTitle>
                    <notes isHTML="true"></notes>
                    <slideThumbnail url="thumb.swf" frame="1"/>
                    <slideSpeaker index="0"/
                    <audio unl="a24x1.mp3"/>
              </slide>
              <slide id="282" frameRate="30" totalFrames="1167"
  advance="auto" type="normal">
                    <content url="Slide2.swf"/>
                    <slideBackground index="1" frameToPlay="1"
  duration="2" showAfterFrame="0"/>
                    <slideTitle>Assessment </slideTitle>
                    <notes isHTML="true"></notes>
                    <slideThumbnail url="thumb.swf" frame="2"/>
                    <slideSpeaker index="0"/
                    <audio unl="a24x2.mp3"/>
              </slide>
              <slide id="298" frameRate="30" totalFrames="3267"
  advance="auto" type="normal">
                    <content url="Slide3.swf"/>
```

The sound file order in the XML is pointed out by the red boxes.

If the filenames you see in the XML jump around numerically (e.g. a24x4.mp3 is followed by a24x1.mp3, then a24x2.mp3), the mp3 files MUST be renamed in their proper order. In the previous example, a24x4.mp3 would need to be renamed a filename that puts it at the top of a numeric list, like 01.mp3. Then a24x1.mp3 becomes 02.mp3, and a24x2.mp3 becomes 03.mp3. **PRINT OUT** the viewer.xml file so that keeping track of the order is not a problem. You should probably not attempt to work on something like this if you think you may be interrupted, because it's very easy to lose track of your renumbering scheme.

5b. Select all of the renamed mp3s in the folder, but not any other files.

6. Once the mp3s have been selected in Reaper, click the **Open** button to open them in the tool. Be sure to choose **No** at this dialog box:

ſ	REAPER Import Options	
	Import files on separate tracks? (no will insert	all files on one track)
58	Ye	es No

**Note**: choosing Yes instead of No (by clicking on Yes or pressing the Enter key) will lead to this intimidating window:



## To correct this without closing Reaper and beginning again, follow the steps 6a and 6b below.

6a. **[optional, see note above]** From the window shown above, choose **Cancel** and then press **Control +Z** (the "undo" keyboard shortcut):

t View Track Options Insert Help						[aud
	102.3.00 3:23.000	103.1.00 3:24.000	103.3.00 3:25.000	104.1.00 3:26.000	104.3.00 3:27.000	105.1.00 3:28.000
1 io trm fx ØMS 0.00dB center						
2 io irm fx ØMS						
3 io trm fx ØMS	<< a24x3.mp3					
4 io trm fx ØMS						
5 io trm fx ØMS		Building Peaks		8		
6 io trm fx ØMS			Item 2/17			
7 io trm fx ØMS		Show this st	atur when building p	eaks		
п п п 2 104.1.57 / 3:	26.288 [Stopped	[] Rate: 1.0		BPM: 120	Selection: 1.1.00	0 1.1.00
TER M S 1 M S 2 M S 3 inf co a24x1 a24x2 a2	MS4MS 4x3 a24x4	5 M S 6 A	1 s 7 M s k6 a24x7	8 M s 9 a24x8 a	M S 10 M 24x9 a24x10	s 11 M s a24x11
-5- 12 10 11 11 12 11 11	nf Ø 6- io 8- fx: -18- fx:	-inf Ø -in -6- io -18- fx:18	f Ø -inf Ø -io -6- io - fx -18- fx	-inf Ø -6- io ≤18- fix-	-inf Ø -inf -6- io -6- -18- f <sub>*</sub> − -18-	Ø io fx fx Ø −6− −6− io 18− fx
-30 - 12 -30 - 18 -30 - 2030 -	10- R -30- R 2- R -42- R	-30- <b>R</b> -42-	) R 30 R 2 42 R 42 T	30- 42- 1	-30- R -30- -42- U -42-	지 30- R 1
-36 -54- in - 54- in - 54- -inf	4- in in		in 54 in		-54- in -54-	in 54- in

Which will return the window to its correct initial state:

ľ	( [unsaved project] - REAPER v2.010 - UNREGISTERED	SHAREWAR	E					
I	File Edit View Track Options Insert Help							[au
I	E d H / O C A							
I	⊠ & ▓ ☆ ⋕ ∩ 금	99.1 3:16.	. <u>00</u> 000	99.3.00 3:17.000	100.1.00 3:18.000	100.3.00 3:19.000	101.1.00 3:20.000	101.3.00 3:21.000
I								
I								
I								
I								
5								
I								
I								
I								
I						1 1		
I	ныны 100.3.00 / 3:	19.000	[Stopped]	Rate: 1.0		BPM: 120	Selection: 1.1.00	1.1.00
I	-inf -inf 12 12 6 -6- 6 io							
I								
I	1212 183018							

- 6b. **[optional, see note above]** From here, return to the **Insert** menu (Step 1 above) and follow the directions from that point, being careful to choose **No** in Step 5 above.
- 7. Once you have inserted the media files correctly (choosing **No** in Step 5 above), the resulting screen after opening the files should look like this:

k Options Insert Help						
	435.3.00 14:29.000	436.1.00 14:30.000	436.3.00 14:31.000	437.1.00 14:32.000	437.3.00 14:33.000	438 14:3
io trm fx ØMS	<< a24x1 NE OFFLINE C					
435.4.17 / 1	4:29.589	Rate: 1.0		BPM: 120	Selection: 1.1.00	
1 Ms a24x1						
-inf Ø -6- in						

8. Click inside the Reaper workspace (with the tail end of the sound file) and roll the scroll wheel on the mouse backwards (towards you) a few times, until the display looks like this. This is so you can see the whole sound file at one time.

[note: the repeated word OFFLINE is showing in these examples because Reaper is not the program that has the focus of the operating system]

iew Track Options Insert Help				
/ O @ A   \$\# O B	1.1.00 0:00.000	129.1.00 4:16.000	257.1.00 8:32.000	
io trm fs Ø Ø M S	o. offline of (	0. 0 < 0F., 0FFLI., ()	o o. c o o.	end of the sound file

9. Go to the **File** menu and choose **Consolidate/Export Tracks...** to get this dialog box.

🕥 Consolidate Tracks
Consolidation Settings
✓ Ignore silence shorter than     30     seconds (can cause multiple files per track)       □ Force output format (if disabled, it will be automatically determined per-track):
Resample mode: Better (192pt Sinc - SLOW)  (frequired) Consolidate to:
WAV bit depth: ◎ 8 bit ◎ 16 bit ◎ 24 bit ③ 32 bit float ◎ 64 bit float ✔ Write BWF (bext') chunk ✔ Allow large files to use Wave64
Output Output consolidated files to directory: Browse Browse
Vupdate pipiect with consolidated files     V Update pipiect with consolidated files     V Save new project as:     C:\P ogram Files\REAPER\consolidated.rpp     Browse     V Save current project before updating project
Process Cancel

10. Change all of the areas inside the red boxes (using the drop-down menu, if present), until the dialog box looks like this - some new drop-down menus will appear:

Consolid	ation Settings
Entire	e project O Loop selection O Custom: Tracks:
Start: 0	:00.000 End: 11:10.589 Length: 11:10.589 💿 All 🔘 Selected
📃 Ignor	re silence shorter than 30 seconds (can cause multiple files per track)
Force	e output format (if disabled, it will be automatically determined per-track):
Jan	ipie rate. 44 100 VIII VIII VIII VIII VIII VIII
Resamp	le mode: Good (64pt Sinc) 👻 (if required)
Consolid	late to: MP3 (lame) 🔻
Mode:	CBR
Quality:	Normal
VDFLQu	aliy. 2
Output	
Output o	consolidated files to directory: Browse
C:\Prog	ram Files\REAPER
📃 Upda	ate project with consolidated files
	ave new project as:
	C:\Program Files\REAPER\consolidated.pp Browse
	save current project before updating project

11. Now click the top **Browse...** button and navigate to the folder you want the *output* to go to. Consider putting it in the top level of your shared instructor's folder, like this:

Output Output consolidated files to directory:	Browse
N:\Project Folders\Staff-GA Shared Folders\Grace_Jan_GSACrew\Ray\	LorraineBruce
Update project with consolidated files	

Because Reaper doesn't hang on to that information in the way we are using it, consider selecting that text and choosing Copy from the right-click menu to be able to paste it back in for other files in the same folder.

#### 12. Click the **Process** button to begin:



#### Which results in this status window.

ons	olidation Settings
E	ntire project O Loop selection O Custom: Tracks:
arl	: 0:00.000 End: 11:10.589 Length: 11:10.589 💿 All 💿 Selected
]  g	nore silence shorter than 30 seconds (can cause multiple files per track)
0	Consolidating
	Current Output File
	N:\Project Folders\Staff-GA Shared Folders\Grace_Jan_GSACrew\Ray\Lc
	MP3 (lame) 22050hz 1ch, 48kbps
	Processing Track 1/1 "a24x1"
	Cancel
	Save new project as:
	N:\Project Folders\Staff-GA Shared Folders\Grace_Jan_GSACrew Browse
	Save current project before updating project
	Process Cancer

13. Once the output process is complete, you are returned to the file displayed in the Reaper workspace:

) [unsaved project] - REAPER v2.010 - UNREGISTERED	SHAREWARE
File Edit View Track Options Insert Help	
⊠ & ▓ ☆ ⋕ ∩ ⊇	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
[1] a24x1 🗀 🔯 🕅 S	I have needed by the the the the the the that have been the by her had been a straight a set all the the the the
R 0.00dB center	1 the work the work of the second a the second the two when the the second the test the second the test of the second the

14. Navigate to the shared instructor's folder on the N: drive in a **Windows Explorer** window. Note that there are 2 Reaper-generated files:

<b>~</b>	퉬 rubric	1/15/2008 7:13 PM	File Fo
	01-a24x1-consolidated-080115_2005.mp3	1/15/2008 8:05 PM	MP3 F
	🙀 01-a24x1-consolidated-080115_2005.mp3.reapeaks	1/15/2008 8:05 PM	REAPE

15. Double-click on the mp3 file and listen to the first few seconds and the last few seconds to make sure everything is correct. Rename the mp3 file with something that will tell you and the instructor which lecture file this is. Often, the name of the folder that the files came from is named with something that is already useful (like "Assessment" from Step 3 in this example):

	assessment.mp3	1/15/2008 8:05 PM
	🙀 01-a24x1-consolidated-080115_2005.mp3.reapeaks	1/15/2008 8:05 PM

Note that the .reapeaks file is a "scratch file" and is only used to build the mp3. You'll be deleting it and any other files that are not the finished mp3s once you have processed and output all of the sound files you are working on, and have closed down Reaper.

16. To continue working on other lecture files without shutting down and restarting Reaper, first return to Reaper. In the Reaper workspace, press **Control + A** to **select all**. Right click on the sound form:



### and choose Remove selected items to get this:

👽 [unsaved project] - REAPER v2.010 - UNREGISTERED SHAREWARE							
File Edit View Track Options Insert Help					[audio device closed]		
E E E / O C A							
	1.1.00 0:00.00	0   <u>129.</u> 4:16.	.1.00 .000	257.1.00 8:32.000	385.1.00 12:48.000		
1 a24x1 io trm fx Ø	MS B center						
<b>H H H H D</b> 337.1.0	0 / 11:12.0	0 Rate: 1.0	BPM:	120 selection: 1.1.00	1.1.00 0.0.00		
	,						
MASTER MIS 1 MIS							

In the red box is the current insertion mark, which is where any new inserted file will be placed. We want that mark to be back at time zero, so click on the zero mark (in the blue box) while the mouse cursor is shaped like an I-bar to re-position the insertion point at time zero.



17. Return to the **Insert** menu, and repeat the steps above, starting back at Step 1.

18. Finally, when exiting Reaper, don't save the project when prompted, as Reaper will generate additional files you will only have to go back and delete. When prompted to save, choose No:



19. You're done! All that's left is to move/link the mp3s to the website.

This GA Crew walkthrough/tutorial was put together by Ray Baldwin in April 2008, with assistance and testing by Renee Disch.