From:	Brian C. Fidali
Sent:	Thursday, April 11, 2024 17:07
To:	Petra.Bachanova.GR@dartmouth.edu
Subject:	FW: Music python presentation code **EXTERNAL**
Attachments:	outputPreprocessMusicExp3.pdf

From: Michael A. Casey <Michael.A.Casey@dartmouth.edu>
Sent: Monday, January 15, 2024 09:13
To: Brian C. Fidali <Brian.C.Fidali@hitchcock.org>
Cc: Camilo A. Castelblanco Riveros <Camilo.A.Castelblanco.Riveros.GR@dartmouth.edu>
Subject: Re: Music python presentation code **EXTERNAL**

This Message Is From an External Sender This message came from outside the Dartmouth Health system.	Report Suspicious

Executable files cannot be sent over email. The following executable attachments were removed from this email by Dartmouth Health spam filtering: preprocessmusicexp3.ipynb

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Dear Brian and Camilo,

I have attached a PDF and the jupyter notebook of some information about our Music3 Experiment ECoG stimulus markers.

First, I made symlinks to all the ECoG and Log files, to have a consistent naming scheme:

lrwxr-xr-x 1 mkc staff 39 Aug 23 12:13 Subject17_MusicSession01.EDF -> Subject17_Music Session _01Apr22_AK.EDF
lrwxr-xr-x 1 mkc staff 18 Aug 23 12:13 Subject17_MusicSession01.log -> 17_4.1.2022_AK.log
lrwxr-xr-x 1 mkc staff 40 Aug 23 12:15 Subject18_MusicSession01.EDF -> Subject18_Music Session 1_18Apr22_AK.EDF
lrwxr-xr-x 1 mkc staff 19 Aug 23 12:17 Subject18_MusicSession01.log -> 18_4.18.2022_AK.log
lrwxr-xr-x 1 mkc staff 39 Aug 23 12:43 Subject18_MusicSession02.EDF -> Subject18_Music Session 2_20Apr2022.EDF
lrwxr-xr-x 1 mkc staff 19 Aug 23 12:18 Subject18_MusicSession02.log -> 18_4.20.2022_AK.log
lrwxr-xr-x 1 mkc staff 40 Aug 23 12:19 Subject19_MusicSession01.EDF -> Subject19_Music Session 1_05Oct22_AK.EDF
lrwxr-xr-x 1 mkc staff 29 Aug 23 12:19 Subject19_MusicSession01.log -> subject19_10.5.2022_11.25.log
lrwxr-xr-x 1 mkc staff 40 Aug 23 12:20 Subject20_MusicSession01.EDF -> Subject20_Music Session 1_14Oct22_AK.EDF
lrwxr-xr-x 1 mkc staff 23 Aug 23 12:21 Subject20_MusicSession01.log -> 20_10.14.2022_13.24.log
lrwxr-xr-x 1 mkc staff 39 Aug 23 12:22 Subject21_MusicSession01.EDF -> Music Testing_Subject 21_28Nov22_AK.EDF

lrwxr-xr-x 1 mkc staff 30 Aug 23 12:23 Subject21_MusicSession01.log -> subject21_11.28.2022_13.52.log
lrwxr-xr-x 1 mkc staff 31 Aug 23 12:24 Subject22_MusicSession01.EDF -> Subject 22_Session1_20Jan23.EDF
lrwxr-xr-x 1 mkc staff 29 Aug 23 12:26 Subject22_MusicSession01.log -> subject22_1.20.2023_13.31.log
lrwxr-xr-x 1 mkc staff 31 Aug 23 12:25 Subject22_MusicSession02.EDF -> Subject 22_Session2_25Jan23.EDF
lrwxr-xr-x 1 mkc staff 29 Aug 23 12:26 Subject22_MusicSession02.log -> subject22_1.25.2023_13.53.log
lrwxr-xr-x 1 mkc staff 32 Aug 23 12:27 Subject23_MusicSession01.EDF -> Subject23_Music Session 1_AK.EDF
lrwxr-xr-x 1 mkc staff 29 Aug 23 12:30 Subject23_MusicSession01.log -> subject23_2.15.2023_14.13.log
lrwxr-xr-x 1 mkc staff 39 Aug 23 12:28 Subject24_MusicSession01.EDF -> Subject24_Music Session
_07Apr23_AK.EDF
lrwxr-xr-x 1 mkc staff 27 Aug 23 12:28 Subject24_MusicSession01.log -> subject24_4.7.2023_9.37.log

Following are the start samples, end samples, for all stimulus-marker positions in the DC channel for each subject (this is for preprocessed data which is down-samples to 256Hz):
```
SubjSess=Subject17_MusicSession01, evs=13, stimTrigs=5, trigs=[5, 7, 9,
11, 12]
logFEv=0, stimChEv=5, Ev=K448-Audio-136bpm, startSamp=446458,
endSamp=577137, sfreq=256, evDur=510.46, stimDur=505.93, diff=4.53
logFEv=1, stimChEv=7, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=610794, endSamp=698066, sfreq=256, evDur=340.91, stimDur=319.92,
diff=20.99
logFEv=2, stimChEv=9, Ev=Coldplay_Clocks_132bpm, startSamp=731628,
endSamp=811589, sfreq=256, evDur=312.35, stimDur=308.35, diff=3.99
logFEv=3, stimChEv=11, Ev=K448-Audio-106bpm, startSamp=844587,
endSamp=1011331, sfreq=256, evDur=651.34, stimDur=649.12, diff=2.22
logFEv=4, stimChEv=12, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=1028309, endSamp=1047494, sfreq=256, evDur=74.94,
stimDur=589.06, diff=-514.12

SubjSess=Subject18_MusicSession01, evs=8, stimTrigs=7, trigs=[1, 2, 3, 4,
5, 6, 7]
logFEv=0, stimChEv=1, Ev=K448-Audio-136bpm, startSamp=389048,
endSamp=519480, sfreq=256, evDur=509.50, stimDur=505.93, diff=3.57
logFEv=1, stimChEv=2, Ev=Coldplay_Clocks_132bpm, startSamp=537705,
endSamp=617831, sfreq=256, evDur=312.99, stimDur=308.35, diff=4.64
logFEv=2, stimChEv=3, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=635713, endSamp=787307, sfreq=256, evDur=592.16, stimDur=589.06,
diff=3.10
logFEv=3, stimChEv=4, Ev=K448-Audio-106bpm, startSamp=805217,
endSamp=971987, sfreq=256, evDur=651.45, stimDur=649.12, diff=2.32
logFEv=4, stimChEv=5, Ev=K448-136bpm-Monotonic, startSamp=993898,
endSamp=1007693, sfreq=256, evDur=53.89, stimDur=51.34, diff=2.55
logFEv=5, stimChEv=6, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=1025729, endSamp=1108258, sfreq=256, evDur=322.38,
stimDur=319.92, diff=2.46
logFEv=6, stimChEv=7, Ev=K448-Audio-166bpm, startSamp=1126209,
endSamp=1232911, sfreq=256, evDur=416.80, stimDur=414.50, diff=2.31

SubjSess=Subject18_MusicSession02, evs=7, stimTrigs=7, trigs=[0, 1, 2, 3,
4, 5, 6]
logFEv=0, stimChEv=0, Ev=K448-136bpm-Monotonic, startSamp=417915,
endSamp=432037, sfreq=256, evDur=55.16, stimDur=51.34, diff=3.82
```

logFEv=1, stimChEv=1, Ev=K448-Audio-166bpm, startSamp=452803,
endSamp=559544, sfreq=256, evDur=416.96, stimDur=414.50, diff=2.46
logFEv=2, stimChEv=2, Ev=K448-Audio-106bpm, startSamp=577866,
endSamp=744634, sfreq=256, evDur=651.44, stimDur=649.12, diff=2.32
logFEv=3, stimChEv=3, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=762561, endSamp=845178, sfreq=256, evDur=322.72, stimDur=319.92,
diff=2.80
logFEv=4, stimChEv=4, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=862927, endSamp=1014486, sfreq=256, evDur=592.03,
stimDur=589.06, diff=2.97
logFEv=5, stimChEv=5, Ev=K448-Audio-136bpm, startSamp=1032576,
endSamp=1162607, sfreq=256, evDur=507.93, stimDur=505.93, diff=2.00
logFEv=6, stimChEv=6, Ev=Coldplay_Clocks_132bpm, startSamp=1180494,
endSamp=1259972, sfreq=256, evDur=310.46, stimDur=308.35, diff=2.11

SubjSess=Subject19_MusicSession01, evs=5, stimTrigs=4, trigs=[1, 2, 3, 4]
logFEv=0, stimChEv=1, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=815371, endSamp=967359, sfreq=256, evDur=593.70, stimDur=589.06,
diff=4.64
logFEv=1, stimChEv=2, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=988087, endSamp=1071116, sfreq=256, evDur=324.33,
stimDur=319.92, diff=4.41
logFEv=2, stimChEv=3, Ev=K448-Audio-136bpm, startSamp=1089634,
endSamp=1219675, sfreq=256, evDur=507.97, stimDur=505.93, diff=2.04
logFEv=3, stimChEv=4, Ev=K448-Audio-106bpm, startSamp=1236649,
endSamp=1245907, sfreq=256, evDur=36.16, stimDur=649.12, diff=-612.96

SubjSess=Subject20_MusicSession01, evs=11, stimTrigs=7, trigs=[4, 5, 6, 7,
8, 9, 10]
logFEv=0, stimChEv=4, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=523908, endSamp=675770, sfreq=256, evDur=593.21, stimDur=589.06,
diff=4.15
logFEv=1, stimChEv=5, Ev=K448-Audio-136bpm, startSamp=694176,
endSamp=824613, sfreq=256, evDur=509.52, stimDur=505.93, diff=3.59
logFEv=2, stimChEv=6, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=842843, endSamp=925727, sfreq=256, evDur=323.77, stimDur=319.92,
diff=3.85
logFEv=3, stimChEv=7, Ev=K448-Audio-106bpm, startSamp=944065,
endSamp=1111080, sfreq=256, evDur=652.40, stimDur=649.12, diff=3.28
logFEv=4, stimChEv=8, Ev=Coldplay_Clocks_132bpm, startSamp=1129410,
endSamp=1209450, sfreq=256, evDur=312.66, stimDur=308.35, diff=4.30
logFEv=5, stimChEv=9, Ev=K448-136bpm-Monotonic, startSamp=1227734,
endSamp=1241682, sfreq=256, evDur=54.48, stimDur=51.34, diff=3.14
logFEv=6, stimChEv=10, Ev=K448-Audio-166bpm, startSamp=1259974,
endSamp=1367187, sfreq=256, evDur=418.80, stimDur=414.50, diff=4.30

SubjSess=Subject21_MusicSession01, evs=10, stimTrigs=7, trigs=[3, 4, 5, 6,
7, 8, 9]
logFEv=0, stimChEv=3, Ev=Coldplay_Clocks_132bpm, startSamp=156632,
endSamp=236600, sfreq=256, evDur=312.38, stimDur=308.35, diff=4.02
logFEv=1, stimChEv=4, Ev=K448-Audio-166bpm, startSamp=260297,
endSamp=367420, sfreq=256, evDur=418.45, stimDur=414.50, diff=3.95

logFEv=2, stimChEv=5, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=387227, endSamp=470774, sfreq=256, evDur=326.36, stimDur=319.92,
diff=6.43
logFEv=3, stimChEv=6, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=490354, endSamp=641916, sfreq=256, evDur=592.04, stimDur=589.06,
diff=2.98
logFEv=4, stimChEv=7, Ev=K448-Audio-136bpm, startSamp=660137,
endSamp=790777, sfreq=256, evDur=510.31, stimDur=505.93, diff=4.38
logFEv=5, stimChEv=8, Ev=K448-136bpm-Monotonic, startSamp=809958,
endSamp=824116, sfreq=256, evDur=55.30, stimDur=51.34, diff=3.96
logFEv=6, stimChEv=9, Ev=K448-Audio-106bpm, startSamp=841710,
endSamp=1008668, sfreq=256, evDur=652.18, stimDur=649.12, diff=3.06

SubjSess=Subject22_MusicSession01, evs=8, stimTrigs=7, trigs=[1, 2, 3, 4,
5, 6, 7]
logFEv=0, stimChEv=1, Ev=K448-Audio-166bpm, startSamp=311081,
endSamp=420893, sfreq=256, evDur=428.95, stimDur=414.50, diff=14.45
logFEv=1, stimChEv=2, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=439869, endSamp=522627, sfreq=256, evDur=323.27, stimDur=319.92,
diff=3.35
logFEv=2, stimChEv=3, Ev=Coldplay_Clocks_132bpm, startSamp=541465,
endSamp=621206, sfreq=256, evDur=311.49, stimDur=308.35, diff=3.13
logFEv=3, stimChEv=4, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=640940, endSamp=792665, sfreq=256, evDur=592.68, stimDur=589.06,
diff=3.61
logFEv=4, stimChEv=5, Ev=K448-Audio-136bpm, startSamp=811078,
endSamp=941444, sfreq=256, evDur=509.24, stimDur=505.93, diff=3.31
logFEv=5, stimChEv=6, Ev=K448-136bpm-Monotonic, startSamp=959534,
endSamp=973661, sfreq=256, evDur=55.18, stimDur=51.34, diff=3.84
logFEv=6, stimChEv=7, Ev=K448-Audio-106bpm, startSamp=991522,
endSamp=1158207, sfreq=256, evDur=651.11, stimDur=649.12, diff=1.99

SubjSess=Subject22_MusicSession02, evs=10, stimTrigs=7, trigs=[3, 4, 5, 6,
7, 8, 9]
logFEv=0, stimChEv=3, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=310883, endSamp=460383, sfreq=256, evDur=583.98, stimDur=589.06,
diff=-5.08
logFEv=1, stimChEv=4, Ev=K448-136bpm-Monotonic, startSamp=479290,
endSamp=493583, sfreq=256, evDur=55.83, stimDur=51.34, diff=4.49
logFEv=2, stimChEv=5, Ev=K448-Audio-106bpm, startSamp=511610,
endSamp=678650, sfreq=256, evDur=652.50, stimDur=649.12, diff=3.38
logFEv=3, stimChEv=6, Ev=K448-Audio-136bpm, startSamp=696558,
endSamp=827424, sfreq=256, evDur=511.20, stimDur=505.93, diff=5.26
logFEv=4, stimChEv=7, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=845284, endSamp=928265, sfreq=256, evDur=324.14, stimDur=319.92,
diff=4.22
logFEv=5, stimChEv=8, Ev=Coldplay_Clocks_132bpm, startSamp=945941,
endSamp=1026051, sfreq=256, evDur=312.93, stimDur=308.35, diff=4.58
logFEv=6, stimChEv=9, Ev=K448-Audio-166bpm, startSamp=1043817,
endSamp=1150908, sfreq=256, evDur=418.32, stimDur=414.50, diff=3.82

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SubjSess=Subject23_MusicSession01, evs=10, stimTrigs=7, trigs=[2, 3, 4, 5,
6, 7, 8]
logFEv=0, stimChEv=2, Ev=K448-136bpm-Monotonic, startSamp=287165,
endSamp=301390, sfreq=256, evDur=55.57, stimDur=51.34, diff=4.23
logFEv=1, stimChEv=3, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=319654, endSamp=472011, sfreq=256, evDur=595.14, stimDur=589.06,
diff=6.08
logFEv=2, stimChEv=4, Ev=Coldplay_Clocks_132bpm, startSamp=490194,
endSamp=569664, sfreq=256, evDur=310.43, stimDur=308.35, diff=2.08
logFEv=3, stimChEv=5, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=587426, endSamp=669896, sfreq=256, evDur=322.15, stimDur=319.92,
diff=2.23
logFEv=4, stimChEv=6, Ev=K448-Audio-166bpm, startSamp=687719,
endSamp=794440, sfreq=256, evDur=416.88, stimDur=414.50, diff=2.38
logFEv=5, stimChEv=7, Ev=K448-Audio-106bpm, startSamp=812672,
endSamp=979851, sfreq=256, evDur=653.04, stimDur=649.12, diff=3.92
logFEv=6, stimChEv=8, Ev=K448-Audio-136bpm, startSamp=997941,
endSamp=1129721, sfreq=256, evDur=514.77, stimDur=505.93, diff=8.83

SubjSess=Subject24_MusicSession01, evs=11, stimTrigs=7, trigs=[4, 5, 6, 7,
8, 9, 10]
logFEv=0, stimChEv=4, Ev=Wagner_LohengrinWWV75-PreludeToActI,
startSamp=557160, endSamp=708639, sfreq=256, evDur=591.71, stimDur=589.06,
diff=2.65
logFEv=1, stimChEv=5, Ev=K448-Audio-106bpm, startSamp=726624,
endSamp=893804, sfreq=256, evDur=653.05, stimDur=649.12, diff=3.92
logFEv=2, stimChEv=6, Ev=JSBach_PreludeNo2_Cminor_137bpm,
startSamp=912220, endSamp=995743, sfreq=256, evDur=326.26, stimDur=319.92,
diff=6.34
logFEv=3, stimChEv=7, Ev=K448-Audio-136bpm, startSamp=1013938,
endSamp=1144675, sfreq=256, evDur=510.69, stimDur=505.93, diff=4.76
logFEv=4, stimChEv=8, Ev=K448-Audio-166bpm, startSamp=1162526,
endSamp=1275346, sfreq=256, evDur=440.70, stimDur=414.50, diff=26.20
logFEv=5, stimChEv=9, Ev=Coldplay_Clocks_132bpm, startSamp=1293198,
endSamp=1373205, sfreq=256, evDur=312.53, stimDur=308.35, diff=4.17
logFEv=6, stimChEv=10, Ev=K448-136bpm-Monotonic, startSamp=1391043,
endSamp=1406377, sfreq=256, evDur=59.90, stimDur=51.34, diff=8.56
```

I can make this information available in other formats, but maybe these lists suffice. Let me know.

Best,

Michael