How to create epoch_YDZ_all.csv from epoch_YDZ.csv

epoch_YDZ.csv is the file exported from RAVE in the 'Trial Epoching' module.

For 'EMU_NoisyWords' project, we need to extract the phonemes from each target and response words, and calculate the response accuracy based on the matching phonemes between target and response words. Then the 'Condition' can be assigned to each trial. And extra event labels (e.g., auditory_onset) can be added to each trial using R code.

STEP#1.

Create a new file named YDZ_responses.xlsx. This file is in folder:

`/Volumes/BeauchampServe/rave_data/raw/YDZ/Behavior_Results/`

Use the following movie timestamp files saved by Psychtoolbox when running the stimuli in EMU.

1) Filter Column B and get the 'movie' trials. Copy the movie trials to YDZ_responses.xlsx. The four columns are 'Trial', 'Movie', 'Stimulus', and 'psych-time':

YDZ_noisy_words_run1_10-28-2021_15_52_14_log.csv

YDZ_noisy_words_run2_10-28-2021_16_01_52_log.csv

YDZ_noisy_words_run3_10-28-2021_16_44_03_log.csv

YDZ_noisy_words_run4_10-28-2021_16_51_14_log.csv

YDZ_noisy_words_run5_10-28-2021_17_00_00_log.csv

YDZ_noisy_words_run6_10-28-2021_17_08_14_log.csv

2) Add 'Block' as the fifth column;

3) Add 'Response' as the sixth column: response words for each trial based on the transcription. This is usually written down by a RA that was sitting next to the subject to write down the subject's response to the word. e.g., YDZ_reponses_EMU.pdf

4) Fill in the column ‘Condition’ based on the presented movie names

e.g., ‘An’ for shape_lin_a_-8dB.mp4, ‘V’ for quiet_lois_v.mp4, ‘AcV’ for mirage_lin.mp4; ‘AnV’ for mature_amanda_-8dB.mp4, ‘Ac’ for child_lin_a.mp4

3) Run R code to extract phonemes for target words & responses, and count the phoneme numbers.

In order to run this code, make sure all the following files are in the same folder:

phoneme_mapping.R

cmudict.R

cmudict-0.7b_no_header.txt

YDZ_Phoneme.R

YDZ_responses.xlsx

4) Add ‘ConditionBehaviorl’ as the seventh column: based on the phoneme accuracy%: > 50% is ‘correct’ (add ‘1’ behind the existing ‘Condition’), < = 50% is ‘incorrect’(add ‘0’ behind the existing ‘Condition’). (e.g., An0_-4dB)

5) Rename column ‘Condition’ into ‘Type’. Rename ‘ConditionBehaviorl’ into ‘Condition’.

STEP#2.

Concatenate the two files together, and make a new csv named: epoch_YDZall.csv:

epoch_YDZ

YDZ_responses.xlsx

So in this file, there are columns filled: ‘Block’, ‘Time’ (this is the time series exported by epoch/RAVE, not the PsychToolbox timestamps), ‘Trial’, ‘Stimulus’ (this should be the word_speaker of each movie), and ‘Condition’ (copy from YDZ_responses.xlsx).

This file should be in the folder:

/Volumes/BeauchampServe/rave_data/ent_data/EMU_NoisyWords/YDZ/rave/meta

note: in order for RAVE to recognize, epoch files have to be named starting with ‘epoch_’.

STEP#3.

Last step, get more types of time stamps (e.g., auditory onset) for the epoch file by running the R code: augment_epoch_files.R
/Volumes/BeauchampServe/rave_data/ent_data/EMU_NoisyWords)