

Psychopy: a Python library for psychological experiments. Session 4 – Data outputs.

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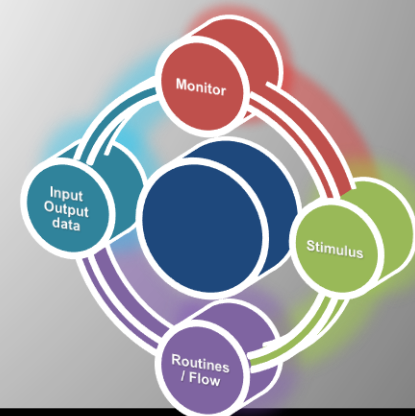
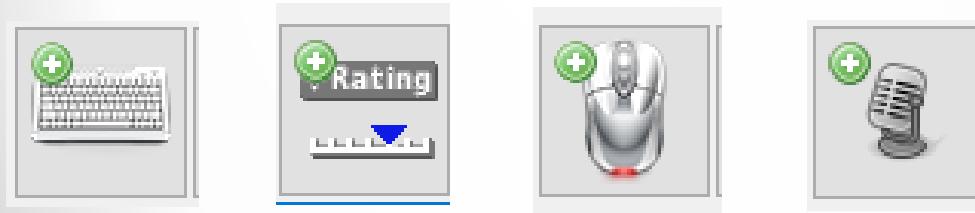
Porto Alegre – Brazil.

1. Components

2. Datafiles

Components

Some components allow you to export the data of the experiment, namely, the user's answers; likewise, you can record the voice, mouse behavior, rating data and video (webcam – you need some developing).





Components - Keyboard

key_resp Properties

Basic

Name:

Start:
Expected start (s):

Stop:
Expected duration (s):

Force end of Routine ☒

Allowed keys \$: constant

Store:

Store correct ☐

Discard previous ☒

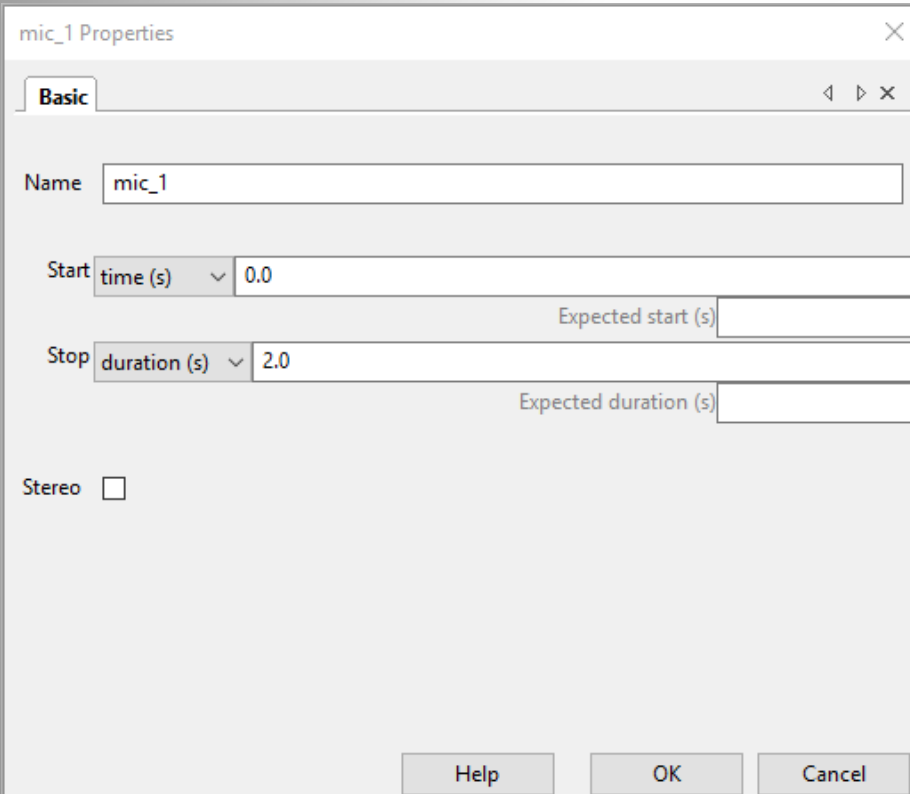
sync RT with screen ☒

Help OK Cancel

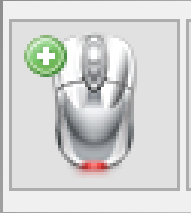
The Keyboard component can be used to collect responses from a participant. By not storing the key press and checking the *forceEndTrial* box it can be used simply to end a Routine



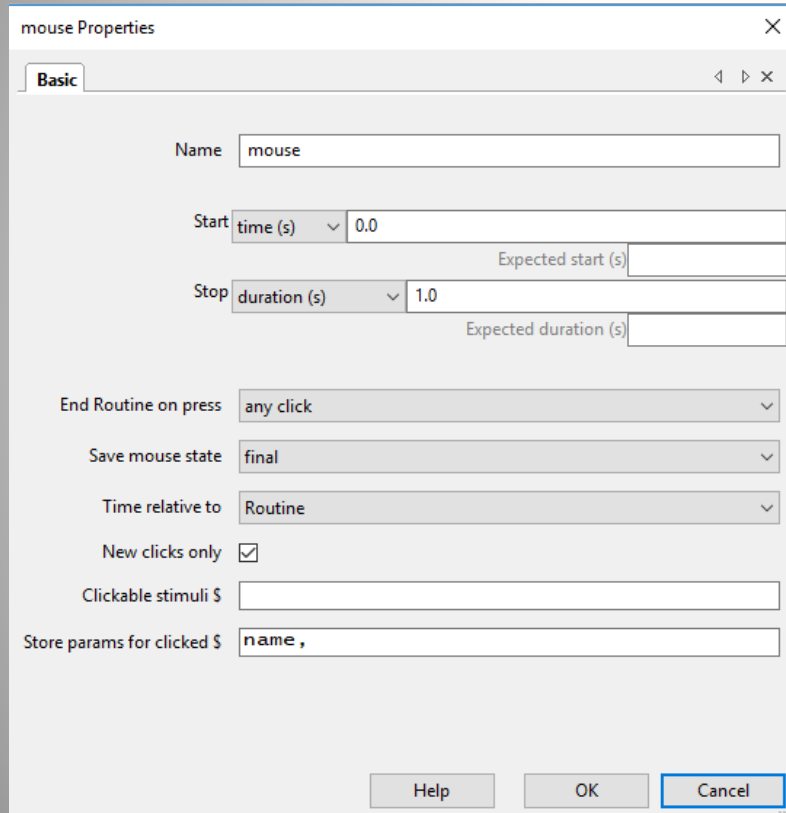
Components - Microphone



The microphone component provides a way to record sound during an experiment. The resulting sound files are saved in .wav format (at 48000 Hz, 16 bit), one file per recording. The files appear in a new folder within the data directory (the subdirectory name ends in `_wav`). The file names include the unix (epoch) time of the onset of the recording with milliseconds, e.g., *mic-1346437545.759.wav*.



Components - Mouse

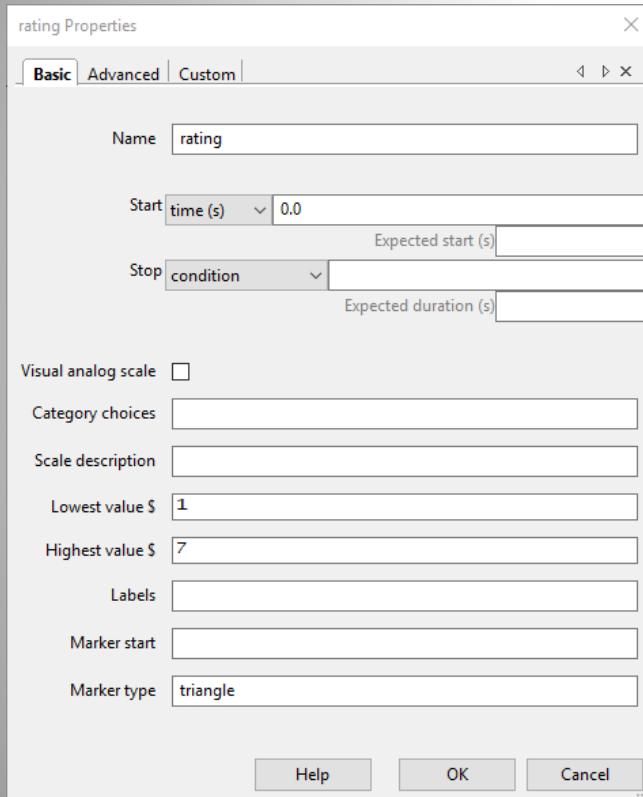


The Mouse component can be used to collect responses from a participant. The coordinates of the mouse location are given in the same coordinates as the Window, with (0,0) in the center.

- Use the mouse to record the location of a button press
- Use the mouse to control stimulus parameters
- Tracking the entire path of the mouse during a period



Components - Ratings



A rating scale is used to collect a numeric rating or a choice from a few alternatives, via the mouse, the keyboard, or both. Both the response and time taken to make it are returned.

A routine from a personality questionnaire could have text plus a rating scale. Three common usage styles are enabled on the first settings page:

- **Visual analog scale:** the subject uses the mouse to position a marker on an unmarked line
- **Category choices:** choose among verbal labels (categories, e.g., “True, False” or “Yes, No, Not sure”)
- **Scale description:** used for numeric choices, e.g., 1 to 7 rating



Generating outputs

There are 4 main forms of [output](#) file from PsychoPy:

- Excel 2007 files (.xlsx) see [Excel Data Files](#) for more details
- text data files (.csv, .tsv, or .txt) see [Delimited Text Files](#) for more details
- binary data files (.psydat) see [PsychoPy Data Files](#) for more details
- log files (.log) see [Log Files](#) for more details



Generating outputs

Log file

Log files are actually rather difficult to use for data analysis but provide a chronological record of everything that happened during your study. The level of content in them depends on you. See [Logging data](#) for further information.



Generating outputs

Psychopy data file

This is actually a [TrialHandler](#) or [StairHandler](#) object that has been saved to disk with the python [cPickle](#) module.

These files are designed to be used by experienced users with previous experience of python and, probably, matplotlib. The contents of the file can be explored with `dir()`, as any other python object.

These files are ideal for batch analysis with a python script and plotting via *matplotlib*. They contain more information than the Excel or csv data files, and can even be used to (re)create those files.



Generating outputs

Excel data file

Excel 2007 files (.xlsx) are a useful and flexible way to output data as a spreadsheet. The file format is open and supported by nearly all spreadsheet applications (including older versions of Excel and also OpenOffice). N.B. because .xlsx files are widely supported, the older Excel file format (.xls) is not likely to be supported by PsychoPy unless a user contributes the code to the project.

Data from PsychoPy are output as a table, with a header row. Each row represents one condition (trial type) as given to the [TrialHandler](#). Each column represents a different type of data as given in the header. For some data, where there are multiple columns for a single entry in the header. This indicates multiple trials. For example, with a standard data file in which response time has been collected as 'rt' there will be a heading *rt_raw* with several columns, one for each trial that occurred for the various trial types, and also an *rt_mean* heading with just a single column giving the mean reaction time for each condition.



Generating outputs

Delimited text files (.csv, .tsv, .txt)

For maximum compatibility, especially for legacy analysis software, you can choose to output your data as a delimited text file. Typically this would be comma-separated values (.csv file) or tab-delimited (.tsv file). The format of those files is exactly the same as the Excel file, but is limited by the file format to a single sheet.



Please open the demo “Stroop”

**Any
questions... ?**

