

Instructions for Using the Mouse Program

Running the Mouse Program

Copy from the provided materials the mouse register program (mousereg2004.exe) and the mouse configuration program (default.ini). Modify the configuration program to suit your purposes. Running the Mouse Program will output the data to a file in the current directory. The name of the output file is specified in the configuration file. To avoid overwriting the results, you either need to rename the file after every participant or create a special configuration file for each participant, with different names for each output file.

Two elements are necessary to run the Mouse Program: the mouse register program (mousereg2004.exe) and the configuration file (e.g., default.ini). The easiest way to run the program is to create a shortcut in Windows (right click on mousereg2004 and select “create shortcut” option). Choose Properties and in the target field, after mousereg2004 type a space and the name of the configuration file. You can use any name for the configuration file; we use default.ini. It must be in the format of a text file. If the configuration file is in the same directory as the mousereg program, it is sufficient to give the configuration file name. Otherwise, type also the path (preceding the name). It is easiest to just copy the sample configuration file (default.ini) and make any desired changes to it. The program will run for the number of seconds specified in the configuration file and then terminate. If you wish to terminate the program sooner, press alt-F4.

We have found it be most useful to create a specific directory for each experimental condition, and either change the sequential number in the name of the output file for each participant or rename the output file after each participant has completed the mouse program. Notice that you may have many shortcuts pointing to the same program in a directory. For example, you may create a shortcut for each participant specifying a unique configuration file for him or her, or you may create a shortcut for each experimental condition and then rename the file after each recording.

Changing the Configuration File

The Mouse Program allows for many options and the adjustment of many parameters for recording. The parameters that are currently not in use have comments before them. If you want to use one of these parameters, remove the comment and change the content of the parameter in the desired fashion. The example configuration file (default.ini) contains short explanations of each parameter and an example of a particular setting. We also include an example of a more complex configuration with the name regconfig.ini (e.g., it shows how to insert a bitmap instead of a circle, change the background color, and use a sound file as instructions and during recording). The first set of parameters specify the interval between successive recordings (i.e., how frequently the program records the mouse position in milliseconds). For silent mouse, we have sampled cursor position at 10 times/sec. For mouse recordings based on a verbal narrative, you may want to use less frequent sampling (e.g., 1 time/sec.) to match the slow change of content in spoken sentences.

The second parameter specifies the duration of the experiment (in seconds). The program can record mouse clicks (e.g., indicating decisions, rewards, punishments, etc.).

By default, this capacity is turned off but the “click” parameter turns it on. The “score” parameter automatically sums the number of mouse clicks. The “output” parameter specifies the file into which the program will write the results for each participant. “Description” can be used to identify experimental conditions or participant’s identification to avoid confusion regarding the conditions under which a file was created. “Append” means that the next file will be added to the most recent file. This may be useful, for example, if a participant does multiple recordings and you wish to combine them into a single output file. The default for this parameter is off. The “logo” controls the display of the program logo dialogue before the start of the program.

Parameters of Experiment

The mouse program can display instructions as text or can play back recorded instructions before starting the actual recording. It can also display a prompt (e.g., “move the mouse to reflect your feelings”) during the recording. It can also play back a wave file (e.g., previously recording auto narration, someone else’s narration, music, etc.). Any text file may be used as instructions. Make sure it is a pure (.txt) file (e.g., created by Notepad). Any wave file may be used for audio instructions or as background for mouse recordings. The experimenter can also change the background of the screen and use any bitmap (e.g., a photo of a face) instead of the circle in the middle of the screen. Parameters of experiment specify these parameters.

Output of the Mouse Program

The output file contains a line for each recording of the mouse position. The first line identifies the recording, the second line contains the heading for the columns. The following lines contain the data. The first column is the x-coordinate of the cursor at the moment of recording (in pixels from left of screen), the second column is the y-coordinate (in pixels from the top of screen), the third column is the time (in sec.), and the fourth column is the value of the mouse click (0 = no click, 1 = click). The first line contains the initial cursor position, which is in the middle of the screen.

Screen Resolution

Note that the recordings are made in screen pixels, which of course can dramatically influence the actual numbers (e.g., distance, speed, etc.). The higher the screen resolution, the higher the numbers. Note also that participants’ mouse movements may also be influenced by screen size and mouse sensitivity. We thus strongly recommend that all data for a given experiment be collected on identical machines (i.e., with the same screen resolution and size, mouse sensitivity, and pointing device type). For the same reason, the absolute values of data from experiments run on different machines should not be directly compared.

Testing Procedures

It is essential that mouse recordings be done in privacy (i.e., without being observed). We found earlier on in this research that any time of evaluation apprehension tends to effectively suppress the mouse movements of participants. The amount of time for which the mouse movements are psychologically meaningful depends on the type of task (e.g., less time for silent mouse than for narrative-based mouse), the specific

instructional set (e.g., reach a decision vs. reflect without constraint), and the culture (e.g., less time in Poland than in U.S.). We recommend that pilot research be conducted to determine the optimal running time for recording time. Alternatively, for some theoretical purposes, participants' unconstrained recording time may provide a meaningful dependent measure. We have found that in self-reflection, for example, participants' verbal narrative (and hence mouse recording) may vary between 1 and 5 minutes in U.S. sample and between 30 sec. and 3 min. in a Polish sample, and that this variability is associated with self-concept properties.