

# OpenSesame

<http://www.cogsci.nl/opensesame>

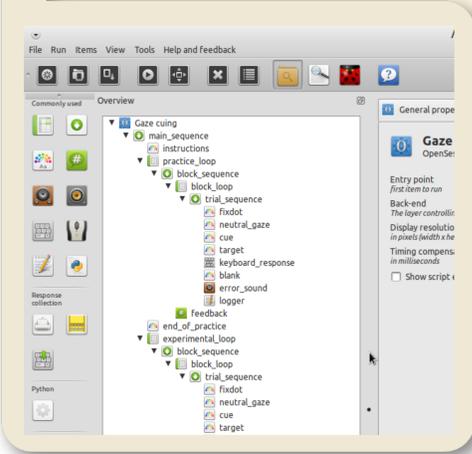
a free, graphical experiment builder for the social sciences

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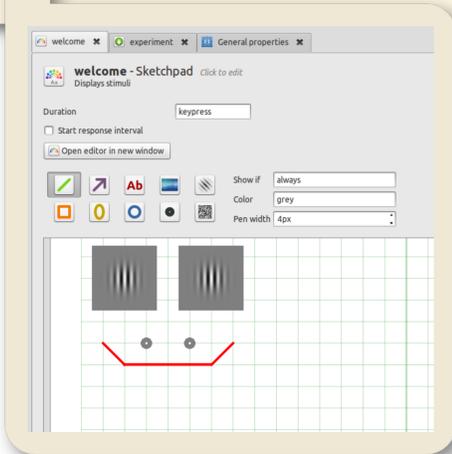
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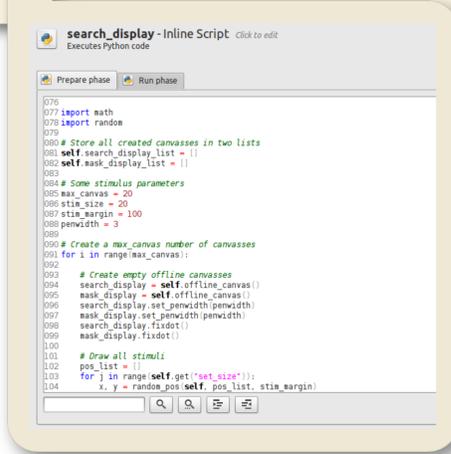
graphical user interface  
drag, drop, point, & click



draw your displays  
integrated drawing tools



python scripting  
embed python code



## about opensesame

free and cross-platform  
windows/ linux/ mac os



open source



windows xp /7 /vista



mac os



linux



also available through  
neurodebian (hanke & halchenko, 2011)



## plug-ins

- extra functionality and support for external devices can be added through plug-ins
- plug-ins are extensions (possibly third party), written in python, that integrate with the gui
- (a selection of) currently available plug-ins:
  - serial response box  
psychology software tools
  - eyelink eye tracker  
sr research
  - mantra object tracker  
mathôt & theeuwes, in press
  - video playback  
extensive frame-by-frame control
  - parallel/ serial port input  
generic input devices
  - questionnaire  
multiple choice, rating scale, etc.



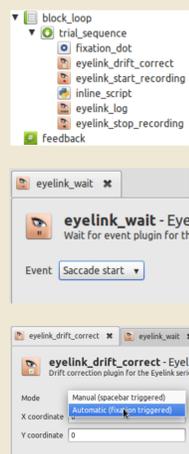
## back-ends

- opensesame is not tied to a specific way (back-end) of handling display, sound, and input devices
- different back-ends have different properties: temporal precision, cross-platform support, specific functionality
- currently available back-ends:
  - legacy (uses pygame)  
a simple and robust library for handling display operations
  - opengl (uses opengl)  
hardware accelerated back-end
  - psycho (uses psychopy)  
advanced functionality for creating psychophysical stimuli (Peirce, 2006)



eyelink  
sr research (www.sr-research.com)

- supported through plug-ins  
six plug-ins that integrate with the gui
- drag-and-drop gaze-contingent paradigms  
wait for a specific event, such as a saccade start
- simplified python bindings  
libeyelink is a simplified custom wrapper around pylink
- in action this thursday  
talk mathôt & theeuwes during symposium on predictive remapping (9:00)



## use in eye movement research

other eye tracking solutions  
supported through python scripting

system	interface	reference
itu gaze tracker itu gaze group	network through python socket module	san agustin et al. (2010) www.gazegroup.org
smi sensomotoric instruments	simplified custom api through libsmi / official api through smi sdk	www.simivision.com
tobii tobii eye tracking research	official api through tobii sdk	www.tobii.com



## getting started

freely available for download  
tutorial, documentation and support  
<http://www.cogsci.nl/opensesame>



## references

Hanke, M., & Halchenko, Y. O. (2011). Neuroscience runs on GNU/Linux. *Frontiers in Neuroinformatics*, 5(8), 1-3.

Mathôt, S., & Theeuwes, J. (in press). Mantra: an open method for object and movement tracking. *Behavior Research Methods*.

Peirce, J. W. (2007). PsychoPy: psychophysics software in Python. *Journal of Neuroscience Methods*, 162(1-2), 8-13.

San Agustin, J., Skovsgaard, H., Mollenbach, E., Barret, M., Tall, M., Hansen, D. W., & Hansen, J. P. (2010). Evaluation of a low-cost open-source gaze tracker. In: *Proceedings of the 2010 Symposium on Eye-Tracking Research & Applications* (pp. 77-80). New York: ACM.