

OpenSesame

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

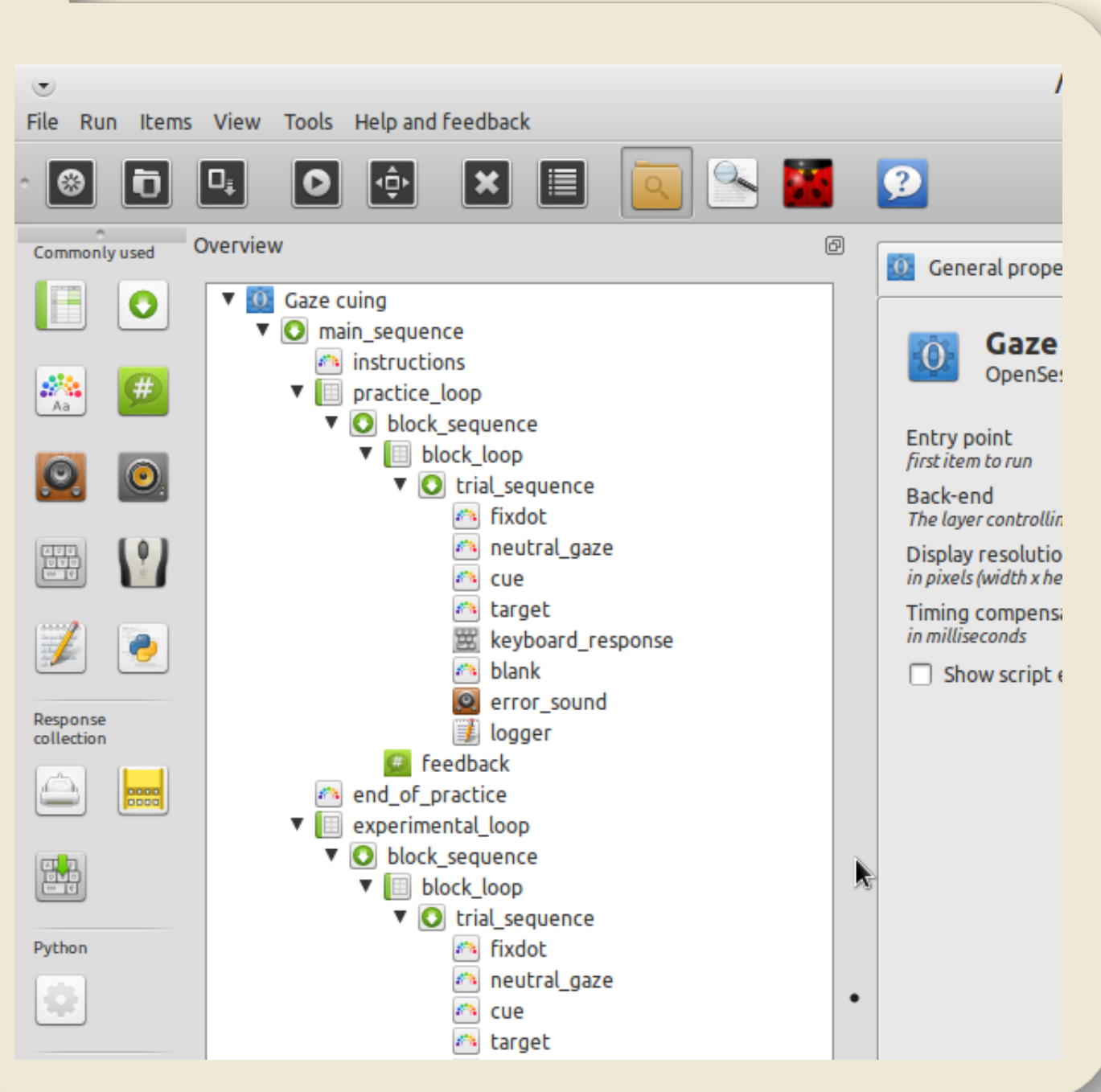
a free, graphical experiment builder for the social sciences

Sebastiaan Mathôt, Daniel Schreij, and Jan Theeuwes

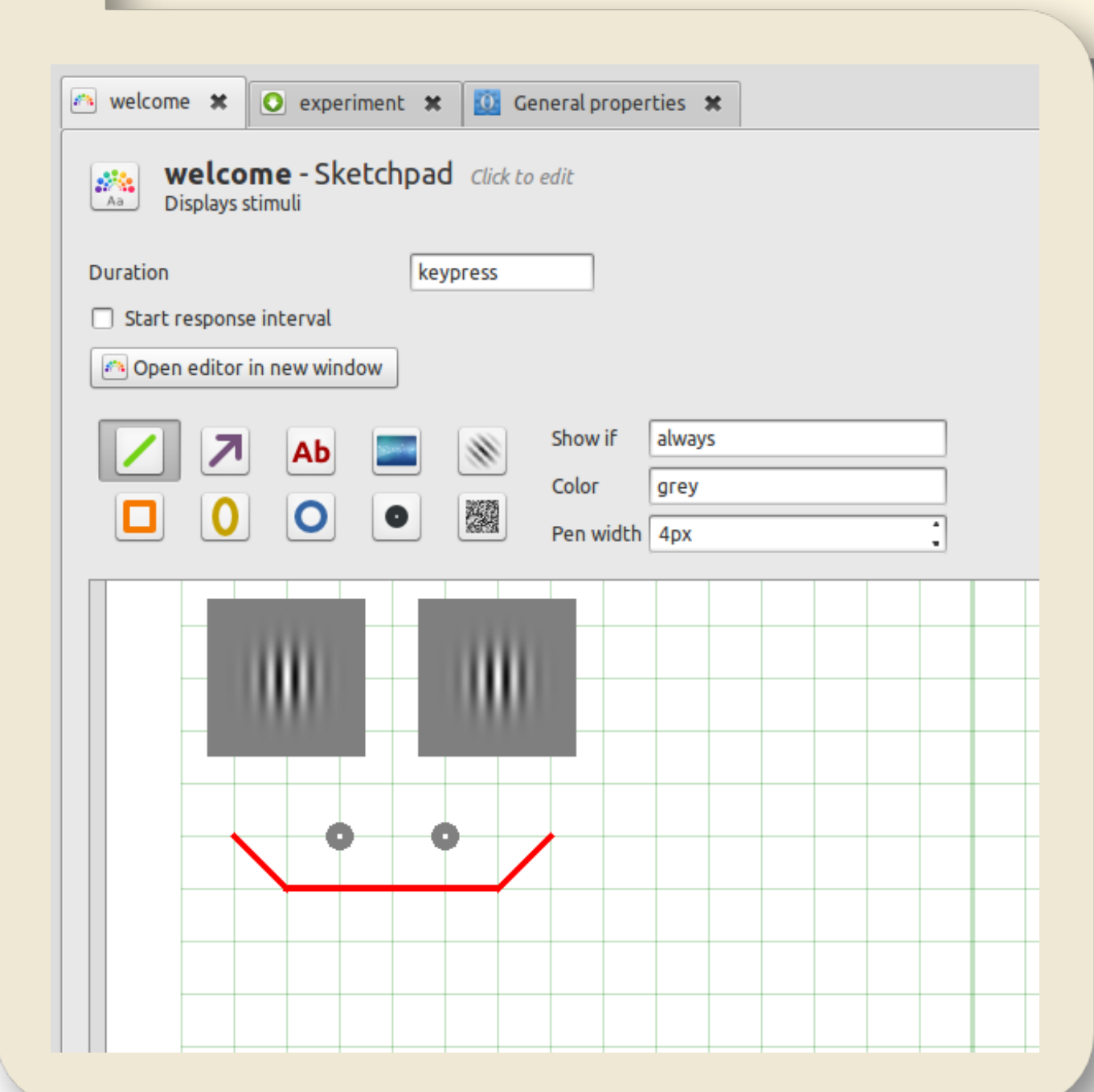
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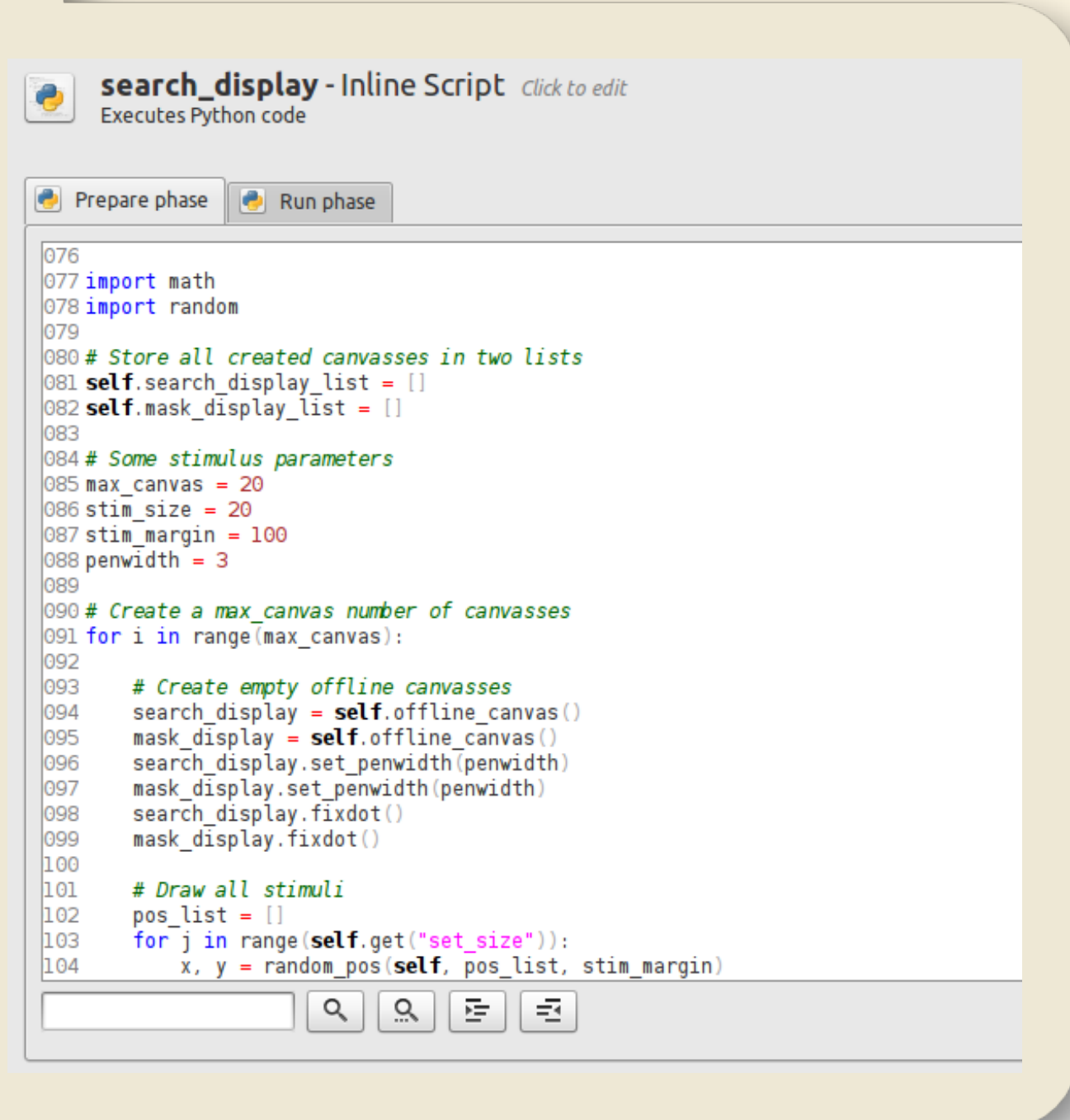
graphical user interface
drag, drop, point, & click



draw your displays
integrated drawing tools



python scripting
embed python code



free and cross-platform
windows/ linux/ mac os



about opensesame



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.



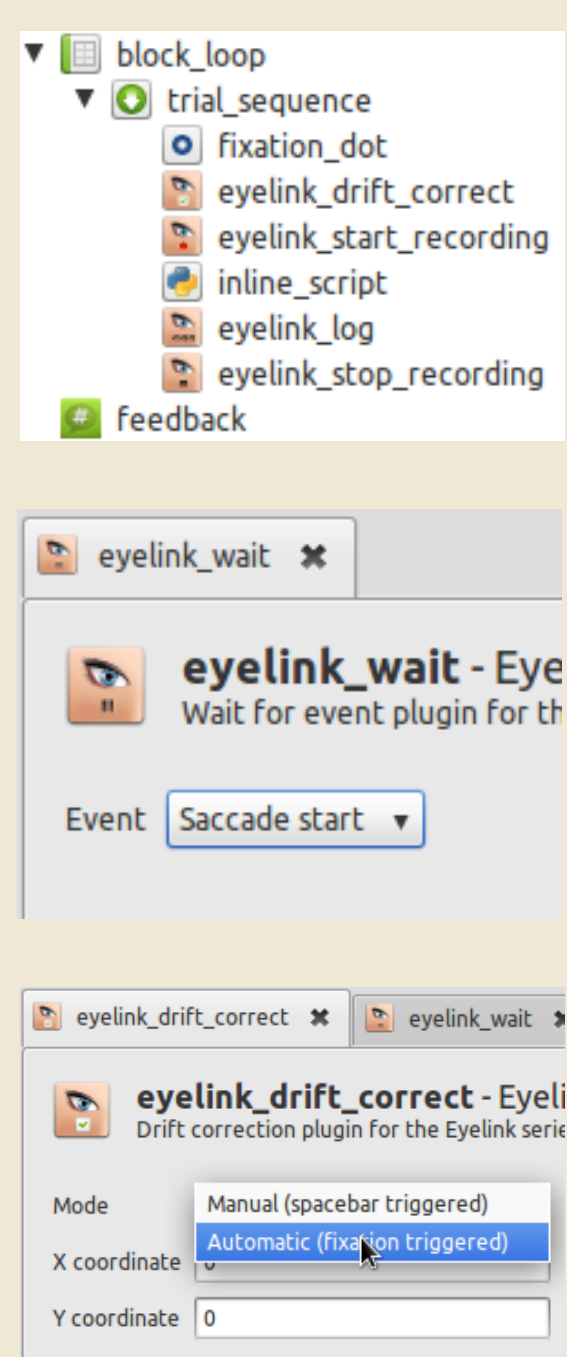
back-ends

- 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

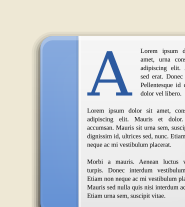
other eye tracking solutions
supported through python scripting

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.