Neuropsydia.py: A Python Module for Creating Experiments, Tasks and Questionnaires

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Summary

Neuropsychology encompasses two intimately related aspects: experimental research and clinical activity. Yet, the gap between these two facets has been severely increasing over the last decades due to the developpement of new technological ressources employed in research paradigms, often lacking portability to clinical practice. This gap restrains direct results application and generalization from research to clinical practice, and *vice versa*. **Neuropsydia.py** is a Python module that provides a high-level set of tools to quickly and easily create computerized experiments, cognitive tests or questionnaires, offering the possibility to heighten up the quality and accuracy of clinical neuropsychology. This free, open-source solution allows neuropsychologists, psychologists and neuroscientists to build sophisticated tasks and focus on what is important: the results and their interpretation.

Neuropsydia.py is based on Pygame and the SDL library, allowing maximum flexibility and compatibility accross platforms. Unlike other python-based experiment creation modules, such as PyschoPy (Peirce 2007) or OpenSesame (Mathôt, Schreij, and Theeuwes 2012), it has no GUI, yet still being oriented toward non-programmers. Indeed, its API is centered around a limited amount of functions with straighforward names such as `write`, `image`, `ask`, `scale` or `choice`. This function-oriented philosophy (contrary to class-oriented syntax such as the one used in Expyriment (Krause and Lindemann 2014)) ensures readability and understanding even for people with not much experience in programming.

Neuropsydia.py can be installed using pip from the Python Package Index 1. Source code and issue tracker are available in Neuropsydia.py's GitHub repository 2, as well as usage examples 3 and a test script 4. Documentation, tutorials and examples are provided through Readthedocs 5.

Figure 1: Logo

References

Krause, Florian, and Oliver Lindemann. 2014. "Expyriment: A Python Library for Cognitive and Neuroscientific Experiments." *Behavior Research Methods* 46 (2). Springer: 416–28. doi:0.3758/s13428-013-0390-6.

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Peirce, Jonathan W. 2007. "PsychoPy—Psychophysics Software in Python." *Journal of Neuroscience Methods* 162 (1). Elsevier: 8–13. doi:10.1016/j.jneumeth.2006.11.017.