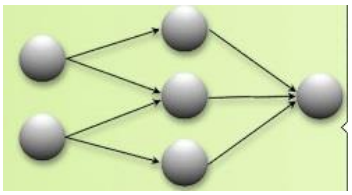
ALTSIM



RELEASE NOTES

ALTSim is a MATLAB-based simulator of several associative learning models. It provides graphical user interfaces for specifying both all relevant parameters and exact stimulus sequences. It is an easy-to-use tool that facilitates evaluating and comparing the featured associative learning models.

ALTSIM 3.4

An introduction to ALTSim 3.4 can be found in:

Thorwart, A., Schultheis, H., König, S. & Lachnit, H. (2009). ALTSim: A MATLAB simulator for current associative learning theories. *Behavior Research Methods*, 41(1), 29-34,doi:10.3758/BRM.41.1.29

ALTSIM 3.7

CHANGES:

1. The previous versions of the Pearce Model contained an error: If exactly the same stimulus is used in several different trial types (e.g., A+, A-, A?), learning was inappropriately accelerated. This has been correct.

NEW FEATURES

1. There is now the possibility to enter additional alphas for Pearce's input unit following Equation (9) of Pearce (1994).
2. In the REM, instead of the general alpha parameter, it is now possible to enter an alpha for each component. We assume that a highly salient component will activate all its elements (context independent and dependent) more strongly than a less salient component.

ALTSIM 3.9

CHANGES

ALTSIM 3.9 WAS BUILT WITH MATLAB 2015B

There have been some major changes to Matlab's graphics system in the last year which means that backward compatibility has become an issue. ALTSim 3.9 was programmed in Matlab 2015b and it seems that there are already problems when 2014b. We are trying to address this.

In the meantime, if you encounter problems, we recommend using the compiled stand-alone version as this does not rely on any Matlab installation.

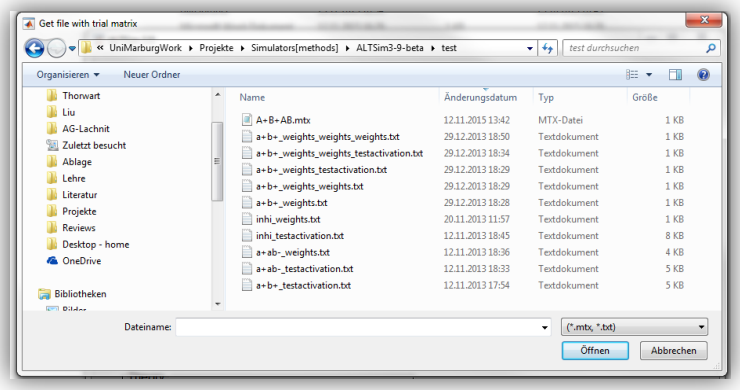
ALTSIM IS NOW A MATLAB APP

The non-compiled version of ALTSim is now available as a Matlab App. To install it, run "ALTSim.mlappinstall" in Matlab 2015b or go the "App" Tab in Matlab and click "Install App".

CHANGES TO FILE TYPES

In order to make distinguishing between and organising the different files easier, we introduced standard name extensions for matrix files (*.mtx) and for the stimulus code file (*.cde). The files should still be saved and formatted as simple text files that were created by any text editor.

You can still use .txt as extension and/or your existent files as files with the .txt – file extension will be shown by default too.

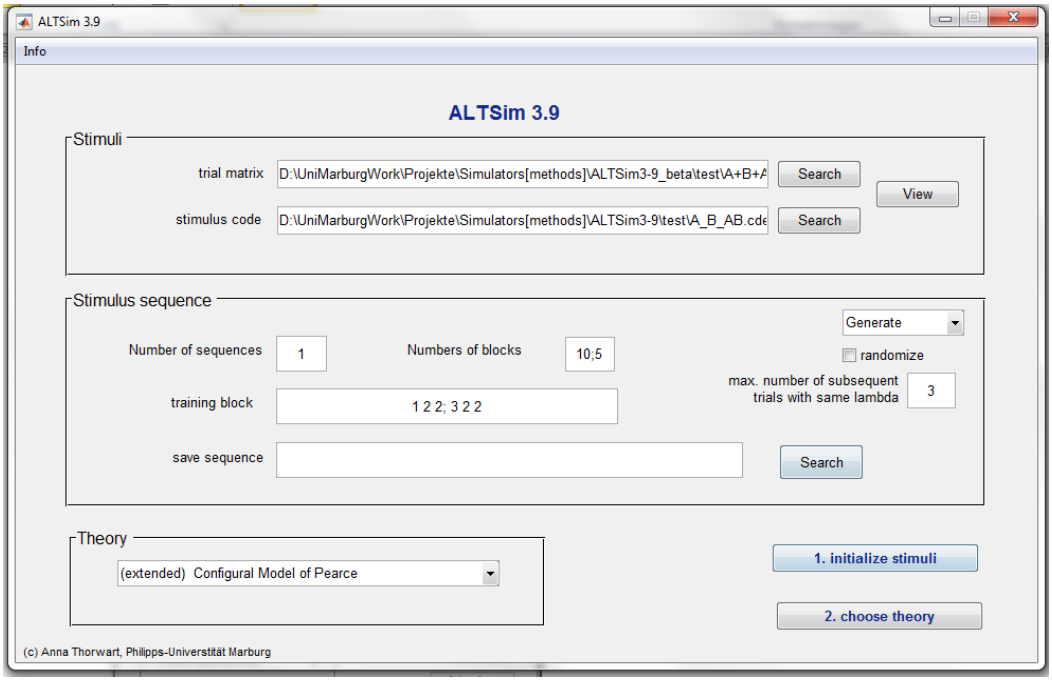


NEW FEATURES

EXPERIMENTS WITH SEVERAL DIFFERENT PHASES

It is now easier to simulate experiments with several different stages. Just separate the description of the different stages with a semicolon in the "Number of blocks" and the "training block" field.

In the example, the experiment consists of 2 phases. In the first phase, 10 blocks of Trial Type 1 and twice Trial Type 2 are trained; in the second phase 5 blocks of Trial Type 3 and again twice Trial Type 2 are trained. The trial sequences of each phase are generated independently from each other and the restrictions on the max number of subsequent trials with the same lambda will be applied to all phases equally.

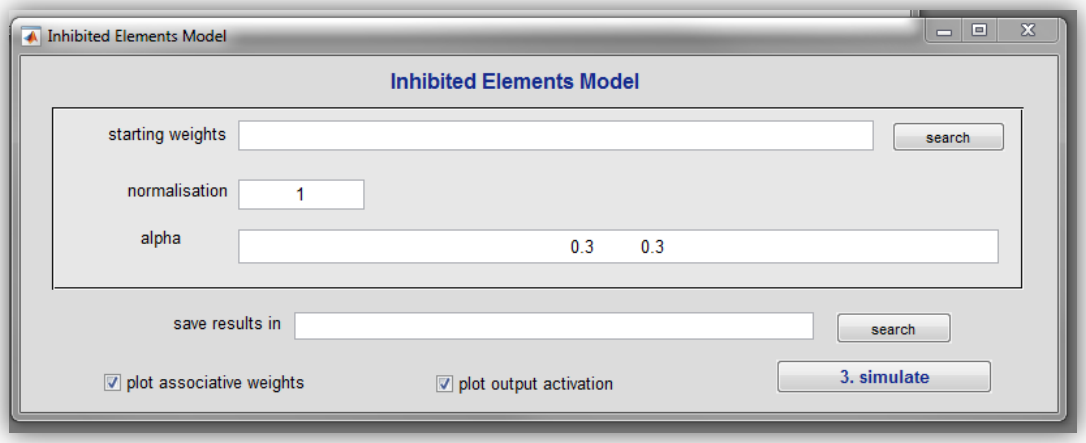


There is also now the possibility to abort the randomisation in case it takes too long, for example if your restriction is too strict.

The results of the complete training will be shown in one figure and saved in one file.

NEW MODELS

ALTSim 3.9 includes an "Inhibited Elements Model" based on Wagner and Brandon (2001, also see Brandon, Vogel & Wagner, 2000). In contrast, to Wagner and Brandon' s model, it includes a parameter that controls the



amount of normalisation and can have a value between 0 and 1.

When normalisation=1, the summed activation of all elements representing all present CS is always 1, i.e. the activation of each element decreases the more CS are present (complete normalisation). When normalisation=0, each CS is presented by one element that is always fully activated to 1, i.e. there is no normalisation and the representation is completely context-independent.

For details on the implementation, please contact me, anna.thorwart@staff.uni-marburg.de. (There also will be a published paper about it at some point.)

ALTSIM 3.10

CHANGES

RESOLVED COMPATIBILITY ISSUES

We re-builded the whole simulator ALTSIM3.9 using older versions of Matlab (mainly 2013a) to resolve the compatibility issues. This version was then tested with 2013a and 2016a.

We would suggest not using it in 2015b (without SP1) as this release caused the problems in ALTSim3..9

MINOR CHANGES

- We fixed some bugs in the randomisation and saving functions.
- We changed the layout of the main interface.