Neutron.

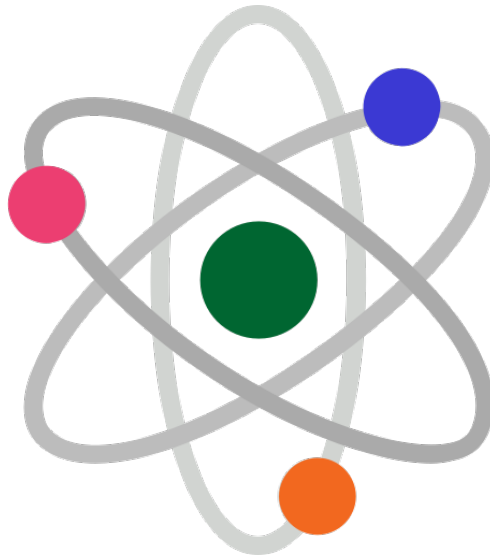## Whiteboard-Software.

Neutron.

Neutron is software designed for whiteboard use. This application gives you the opportunity to use a traditional tool of teaching even in the age of digitisation: The **blackboard**.

Neutron has been developed with the target to be as **easy** and **intuitive** as possible.

Neutron can be used either as a **web** version at johann150.github.com/neutron/online or also as a **desktop** version. The newest release of the desktop version can always be found at github.com/Johann150/neutron/releases/latest.

Functions.

Neutron concentrates on the relevant functions of a blackboard. The range of functions which has been kept small thus only includes:

- drawing with various colours and stroke widths
- removing of drawings
- changing the background colour
- a grid background
- page extension
- undoing and redoing of drawing and removing steps
- saving of the board (either in a custom format or as an image which could be used by students)
- opening of saved boards (only from the custom format)

drawing:

To draw, use the **pen** tool. It is activated by default when the application is started. The pen tool is active when the pen symbol is highlighted in the colour which is currently selected.
When activating the pen tool, the sponge tool will be disabled.

removing:

To remove drawings, use the **sponge** tool. The activity can be checked similarly to the pen tool by looking for a light gray highlight of the sponge icon.
When activating the sponge tool, the pen tool will be disabled.

background colour:

To change the background colour proceed as in section "changing colour" with the **paint roller** symbol.

background grid:

By pressing the **grid** symbol, a grid will be shown in the background of the drawing area. By pressing again, the colour of this grid can be changed. By pressing yet again, the grid can be disabled again. These actions can be repeated in a cycle.
The activity of the grid is also shown by a light gray highlight.

changing colour:

To change the colour of any tool that supports it, press the respective tools icon after it has been activated, if possible. This will open up a bar with a selection of colours. Through clicking on one of the colours, it will be selected for the respective tool.
If this selection is not enough, more colours can be chosen through a browser provided colour chooser, if supported. Click on the colour wheel at the end of the colour bar to open it.
The tools that support changing of colours are the **pen**, **sponge**, **paint roller** and **grid** tool.

changing the stroke width:

The stroke width for the **pen** and **sponge** tools can be controlled trough the slider to the right of the page extension button.

page extension:

To extend the page, use the **page extension** tool.
This tool will scroll to the end of the document, or if the end of the document had already been reached, it is extended.
This will also cause the **scroll bar** at the right of the screen to become active.

undo and redo:

The undo and redo tools work as you might expect from other programs. They undo the last action or redo the last undone action respectively.

The actions that can be undone and redone are limited to drawing and removing actions only. This means that undoing e.g. a background colour change is **not** possible.

saving the current board:
The current board can be saved in two different ways. First with the **floppy disk** tool: It saves the board in a custom format that Neutron can reopen again later. This file will also include any information on current stroke width, pen colour etc.

The board can also be saved using the **camera** tool. It saves an image file of the whole board, so not just what is currently visible. This image could for example be used by students for reference. Please note that it is **not** possible to reopen this picture in Neutron.

opening a saved board:
A file that was saved using the floppy disk tool can be reopened using the **opening** tool to the right of the floppy disk tool. Neutron will then resume the state it was in when this file was saved.

Privacy.

An aspect of education software that is becoming more and more important is the protection of privacy and personal data. Neutron places great importance on the protection of your personal data. This is why Neutron does not use browser cookies in the online version (and neither in the desktop version because cookies are not supported there). All data that is gathered through your usage of neutron stays on your computer. There is no communication between Neutron and the development team or anyone else.
If you want to err on the side of caution, you could even read through the source code repository of Neutron at github.com/Johann150/neutron to assure yourself that Neutron does not use your data in malicious ways. And yes, Neutron is open source Software!

changes to this privacy policy
We reserve the right to change this privacy policy without notice so as to always respect the latest legal obligations or due to changes in our services. This altered privacy policy would then apply for new versions and/or the repeated visit of the web page.

Errors.

We are afraid that we, the developer(s) of Neutron are also just humans like you. And as such we also make mistakes sometime. If you spot a mistake in Neutron please tell us either via the Github bug tracker of our repository (github.com/Johann150/neutron/issues) or per e-Mail to *johann{dot}galle{at}protonmail{dot}com* .

Development.

Neutron is open source software. If you want to improve Neutron, you are invited to contribute to our Github repository (github.com/Johann150/neutron).

For the most part Neutron was developed by Johann Galle. An often demanded and friendly helper for design and user experience was Marc Eric Mitzscherling.

Neutron was developed under the stress of the teachers that dared to test Neutron for us in their lessons. Special thanks go to Mr. Kuefner and Mrs. Boback (oh, german names!) who were daring enough to try the most cutting edge releases of Neutron even if I was not present. Mr. Kuefner is also to "blame" for the creation of this application through his constant complaints about the preinstalled software on our schools whiteboards.

The name **Neutron** was created to fill a gap in the market:
- **Atom** - text editor
- **Proton**mail - provider of encrypted emails
- **Electron** - framework used for the desktop version of Neutron