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Electra - A circuit Simulation Software

Description:

It is an Electric Circuit Simulation Software . It takes the whole circuit as Input from the user and find the current at every resistor. It's algorithm is based on Kirchhoff first law which states that at any junction net current passing is zero. It also uses union Find algorithm and Gaussian elimination to solve system of linear equation. It has build for both Windows and android.

Technologies Used:

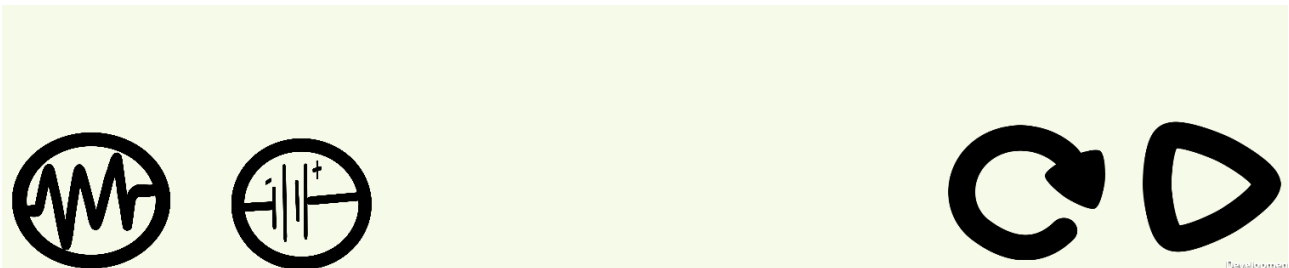
- Unity
- C#
- Inkscape for drawing UI buttons and elements.

How to use:

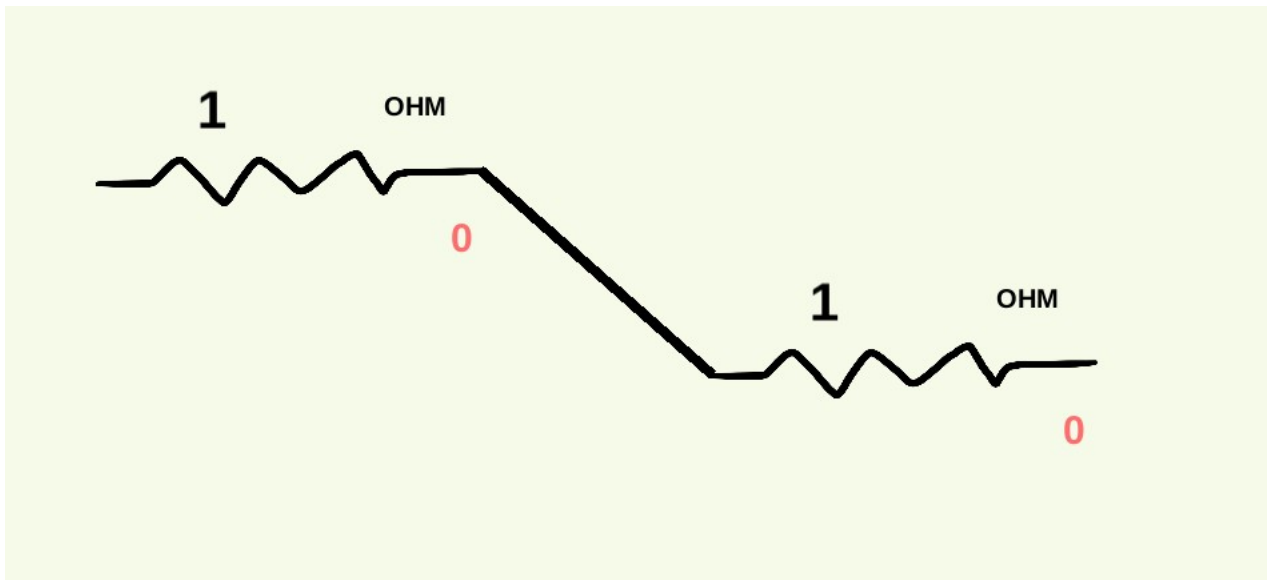
- For Android just install apk
- For Window run "elctra.exe"

There are 4 buttons

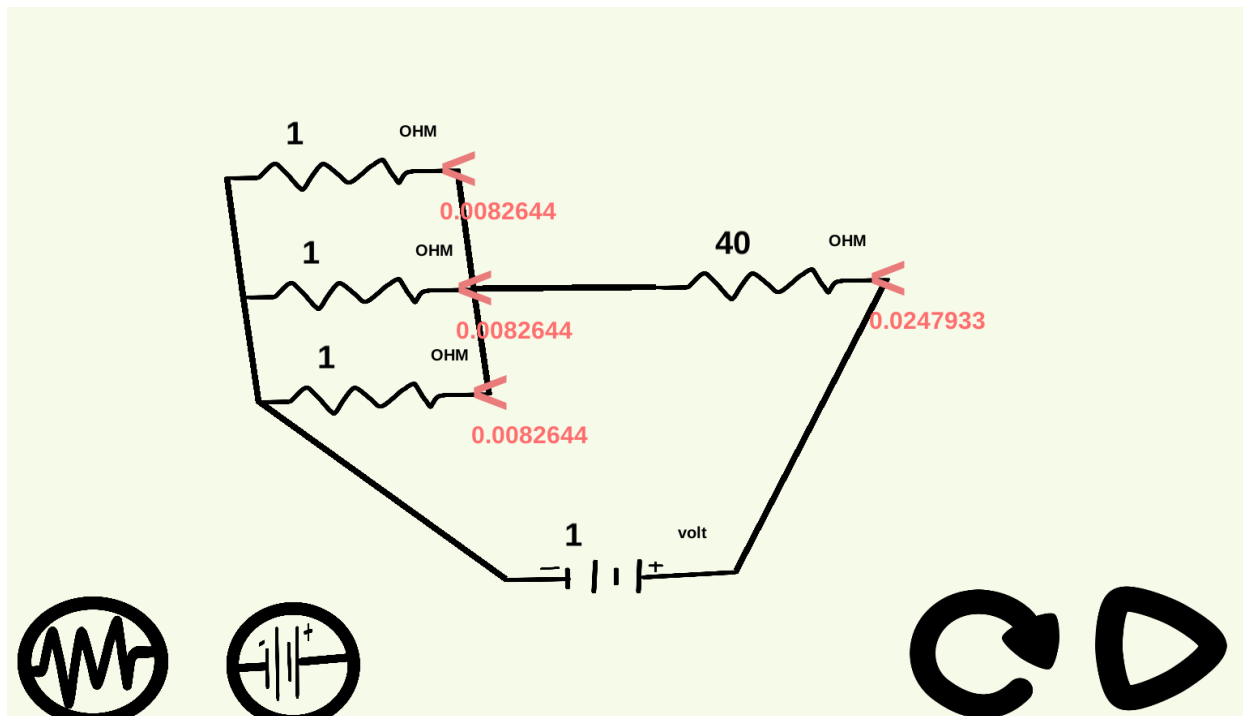
- Resistor button -> To add new resistor to screen
- Cell button -> To add new cell to Screen
- Refresh Button-> To Refresh the screen
- Run -> to run the circuit
- Press "esc" to exit.



- You can just move any resistor and cell on the screen simply by clicking and dragging it.
- To connect any two elements by wire just click on terminal of any element and drag the wire to the terminal you want to connect.



- Make sure the circuit you created is logically correct. Otherwise it will output nothing.
- You can also change the value of resistance and voltage. By clicking on the value. Not set the value to zero. And values will always be in
- If you did any mistake while building a circuit you can click refresh button.
- After Creating correct Circuit Click on run to get current values in Amperes.



Things to be Done :

- This software cant detect if the circuit is wrong
- It does not give output if any resistance or cell voltage is zero