

User guide

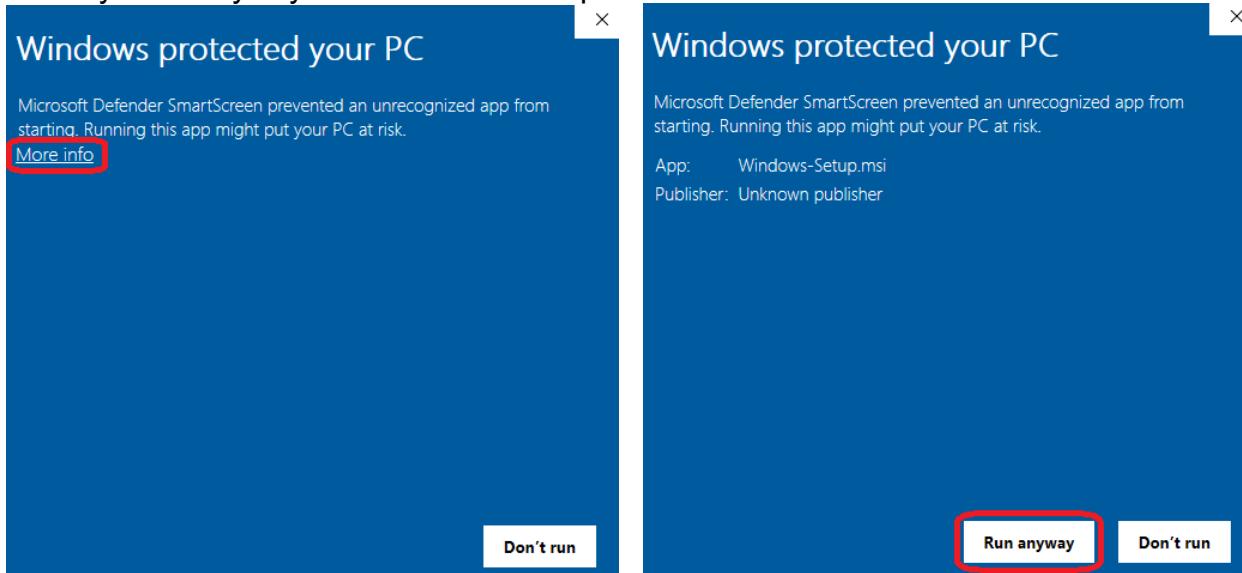
To screen cast your PC to the Matrix you first have to prepare your LED controller.
It is recommend to use an ESP32 board for that.

Download the Arduino file from the latest release and change these parameters:

```
//Things you have to change:  
//Put your WiFi Credentials here:  
const char* ssid = "*****";  
const char* password = "*****";  
  
//Set the Pin and the Dimensions of Your Matrix here:  
const int pin = 13;  
const int width = 16;  
const int height = 16;  
  
//If you have a special kind of Matrix ore use more than one Tile you should change the settings here,  
//For mor Information Visit the Adafruit NeoMatrix Guide: https://learn.adafruit.com/adafruit-neopixel-uberguide/neomatrix-library  
Adafruit_NeoMatrix matrix = Adafruit_NeoMatrix(width, height, pin,  
                                              NEO_MATRIX_BOTTOM + NEO_MATRIX_LEFT +  
                                              NEO_MATRIX_ROWS + NEO_MATRIX_ZIGZAG,  
                                              NEO_GRB + NEO_KHZ800);
```

If you never used your matrix before please test it with an example code to ensure it works properly. After you uploaded the changed code to your ESP it should connect to your WiFi. If the connection is successfully established the Matrix will light up in pink to show its ready to be used.

Now you can download the Windows-Setup.msi and follow the installation wizard. Windows will prevent you from installing the application but if you click on more info you can say run anyway and follow the setup.



The first time you start the Program you have to input the IP Address of your LED Controller board, it should show up in your router with the Host name  ledMatrix

Please put the IP-Address in the according Text box, there is no automatic formatting.
Please enter the IP-Address with points by yourself.

There are a bunch of other Configurations you can change for Example the port which is used to communicate with your controller. If you want to change the used Port you have to change the Arduino-code accordingly. Just change the

```
unsigned int localUdpPort = 4210;
```

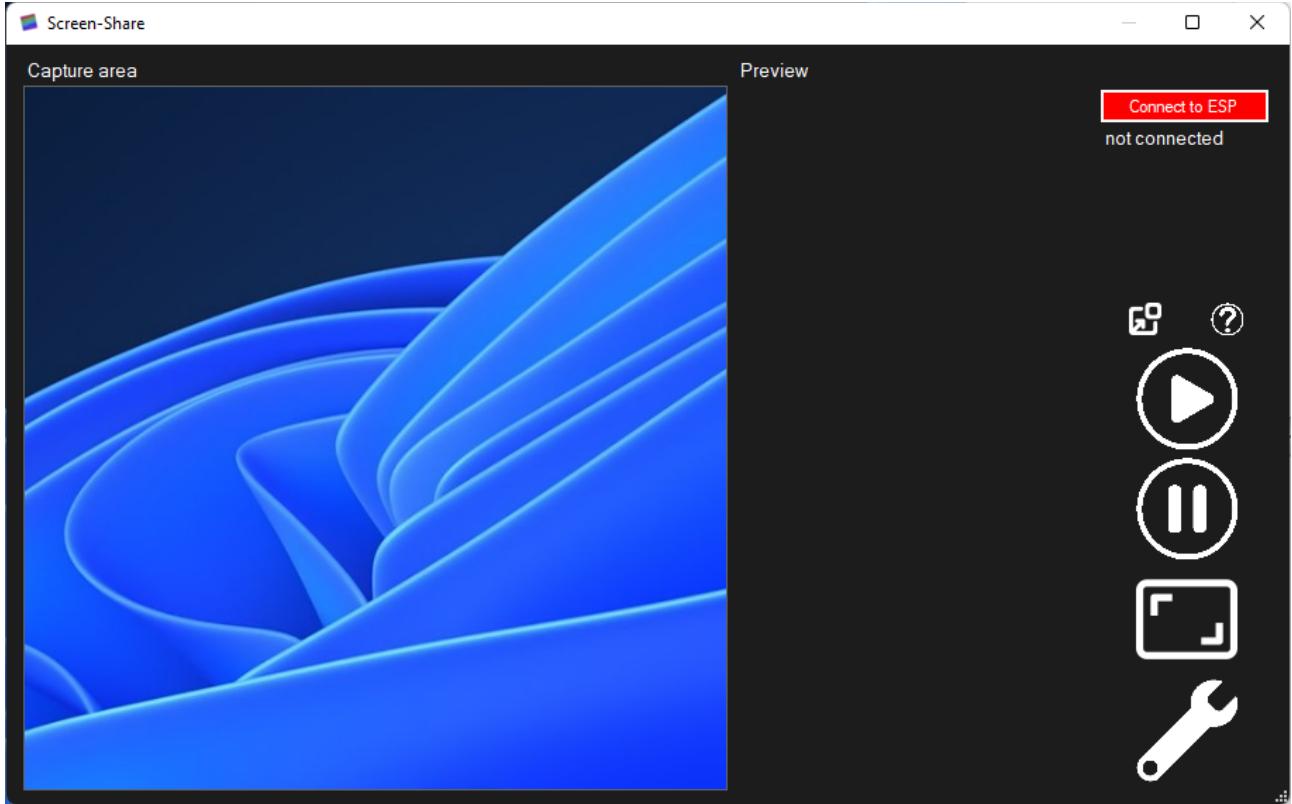
to the Port you want to use and re upload the Code to your controller.

You can also change the Frame rate which the program is taking screenshots of your screen and displays them on the Matrix.

Please note that if you have a lot of LED's in your matrix the FPS can be lower because the ESP isn't fast enough to display every frame in real time. This is intended if you want to do a Slideshow of still images you can bump up the refresh time.

You can also set the maximum Brightness of the Matrix from 0 to 255. This is useful if you have a massive Matrix which needs a lot of power, you could just limit the maximum brightness. Also you have the ability to choose if you want to have the capture window always on top or if it should hide in the background, the function is the same.

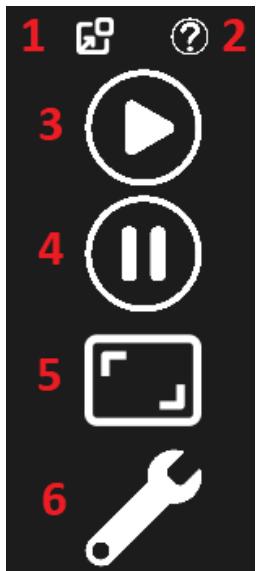
Now you can Save the configuration. The next time you open the application the saved configuration will be used. After saving the main window will show up.



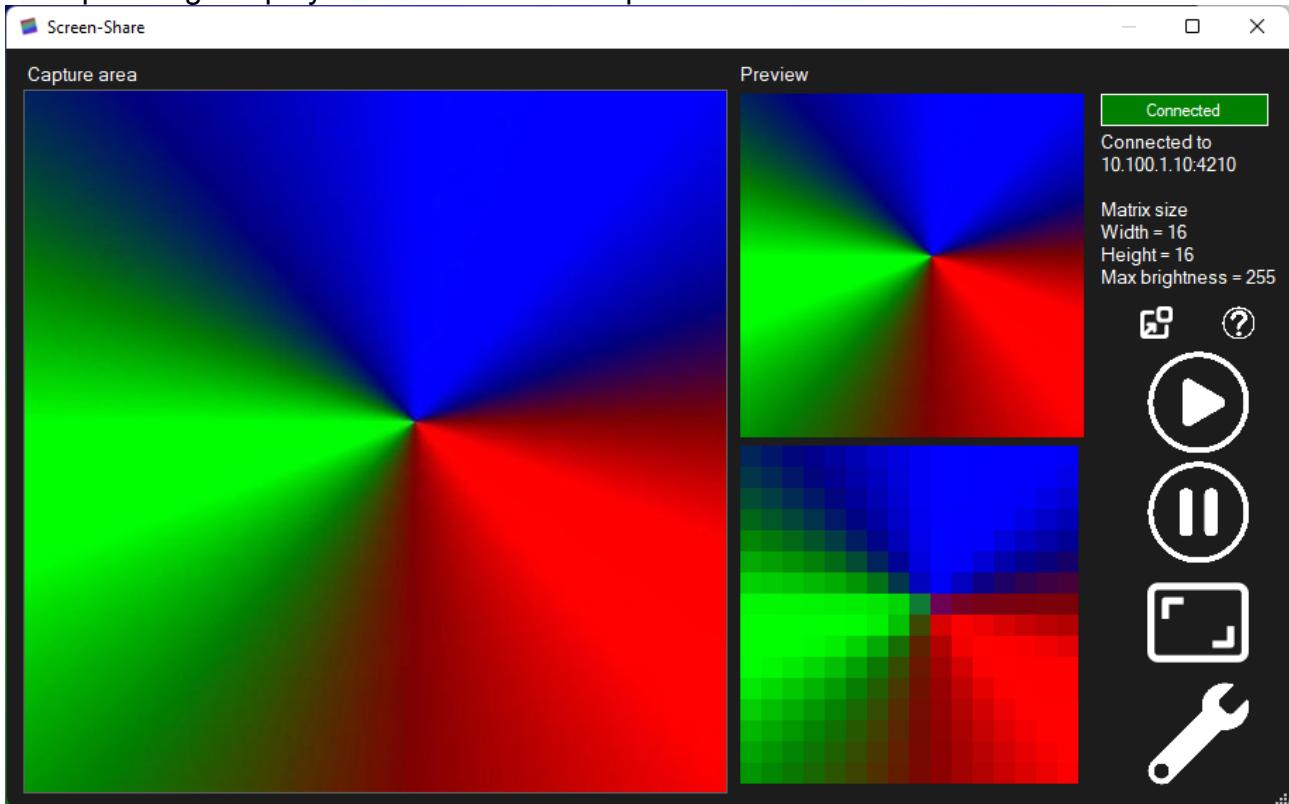
The first thing to do is to connect the Windows software with your controller. Just press the "Connect to ESP" button. If the controller is reachable the button turns green and the matrix will display a green circle. Also you will see some information about the connected Matrix like Size and the maximum brightness. If the ESP isn't reachable the connection attempt will time out after 5 seconds.

The Controls:

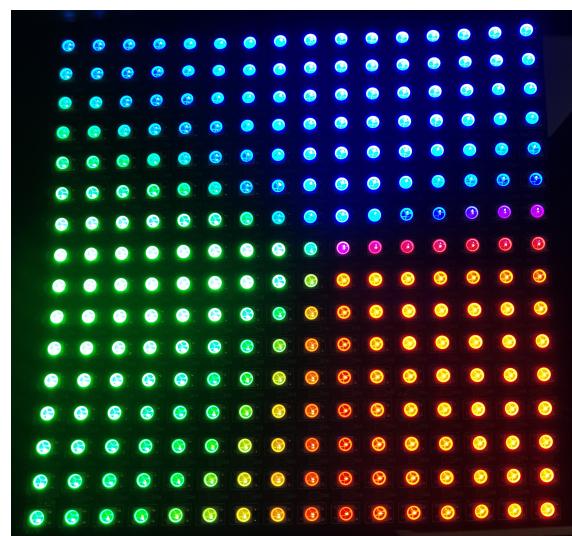
1. Pops out the controls to a separate window, to put them back in the main window just close the control window.
2. Opens this user manual
3. Starts the screen sharing
4. Pauses the screen sharing, the last picture will still be displayed on the Matrix.
5. Resizes the main window to its original size. Helpfull to turn back to a square aspect ratio
6. Opens the configuration editor where you can change your saved configuration.



After pressing the play button there are two preview windows



The Capture area indicates what part of your screen will be send to the Matrix. The top preview window will show exactly what was captured by the program, the capture area and the top preview window should always look the same. The bottom preview window is what exactly is send to your matrix. Please note, if you don't have a square matrix the pixels in the preview can look ab bit wired.



To change the capture area just resize the window however you like.

//This Guide is still work in progress and will be extended soon.