Open Source Graphics & Animation Tools

MID-SEM EVALUATION
MARCH 2020

Submitted to

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Table of Contents

PHASE 1: GIMP

TOPIC: QUANTUM COMPUTER

ABSTRACT INFORMATION:

Number of Layers Used:27(Including text layers)

Font used in text: TIMES NEW ROMAN

Kerning in text: 0.0
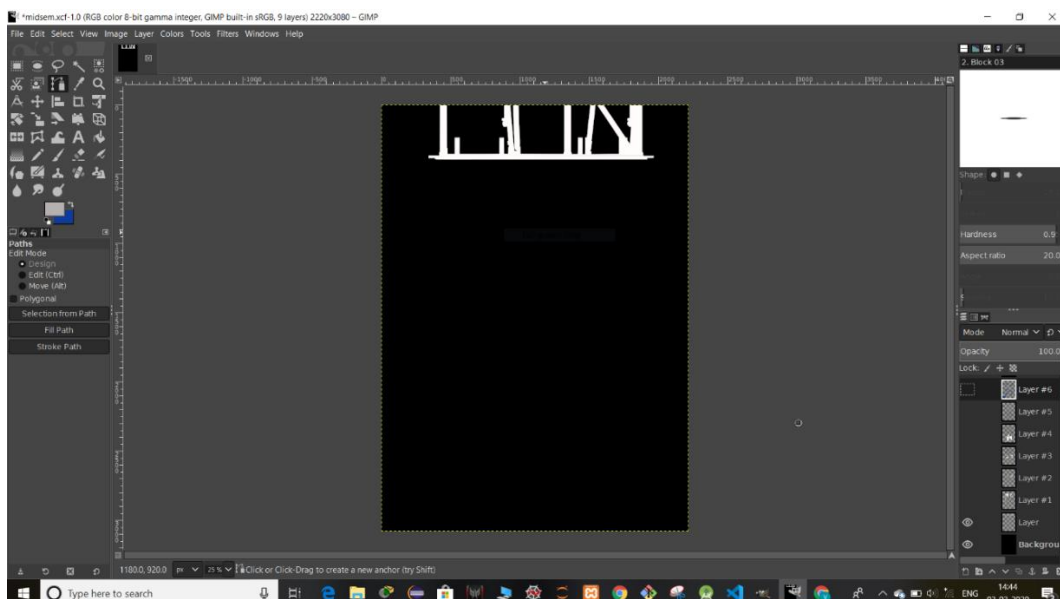
Leading in text: 0.1

Tracking in text: 0.2

Text Size: 36-38

Text Colour: White

Text Opacity: 100%

PROCEDURE

1. Use 2220*3080 Canvas with black background colour.
2. Now add new transparent layer using option new layer

3. Now open your reference using open as layer.
4. Now using the path tool trace out portion by portion (1/5 of the reference).
5. After the trace is complete go to layer then right click and use fill path to fill it with foreground or background colour.
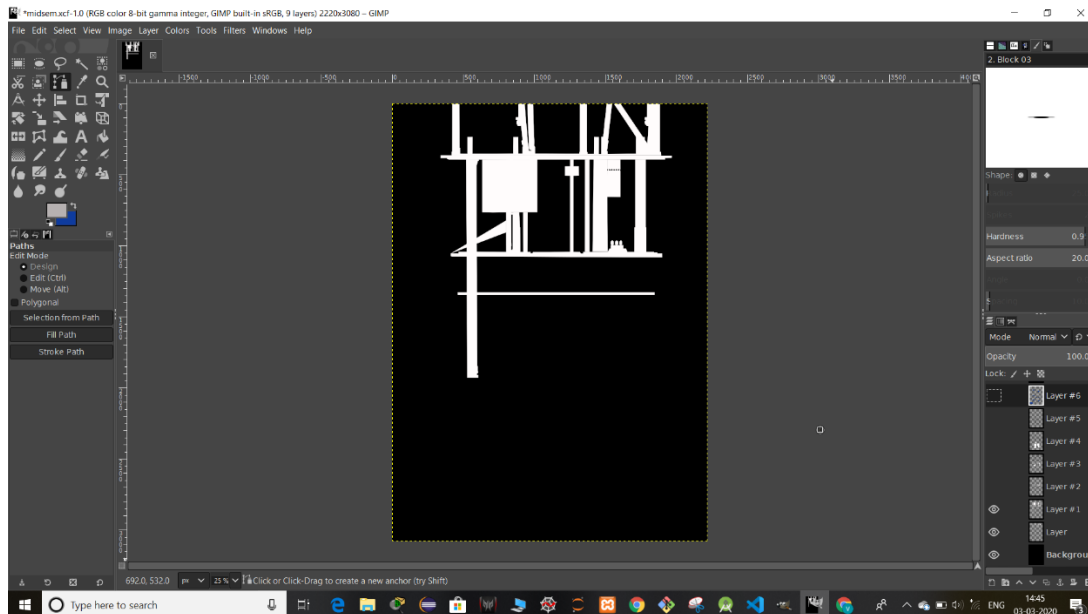
6. Create a new layer.
7. Now using the path tool trace out portion by portion (2/5 of the reference).
8. After the trace is complete go to layer then right click and use fill path to fill it with foreground or background colour.
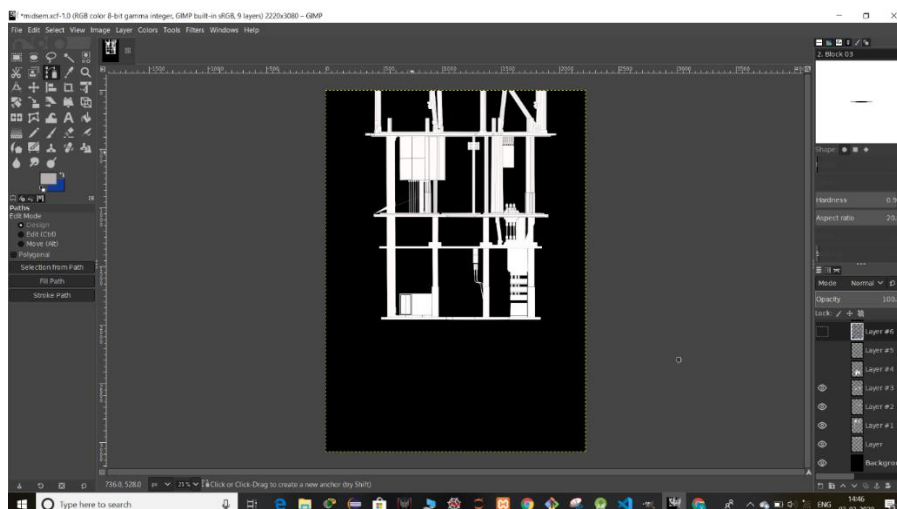
9. Repeat the step 6, 7, 8 again with a new layer (for 5 layers).
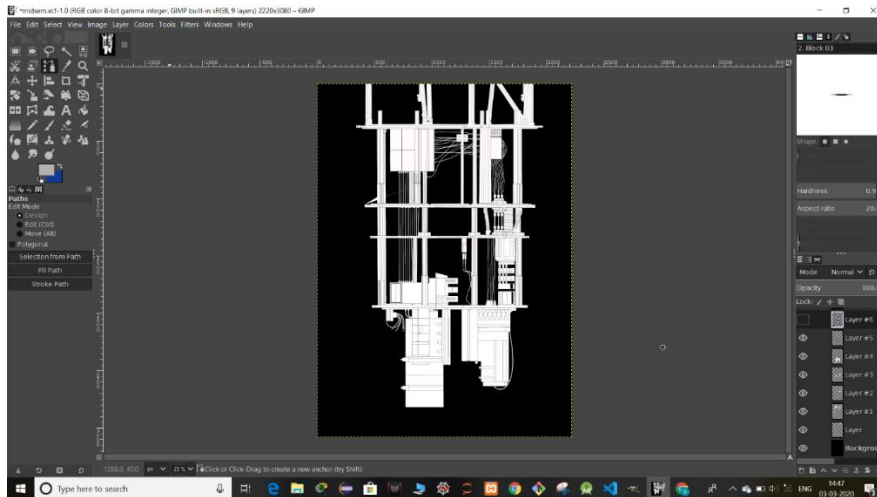
10. To Stroke the wires and other structure use the stroke tool and adjust the Line width accordingly.
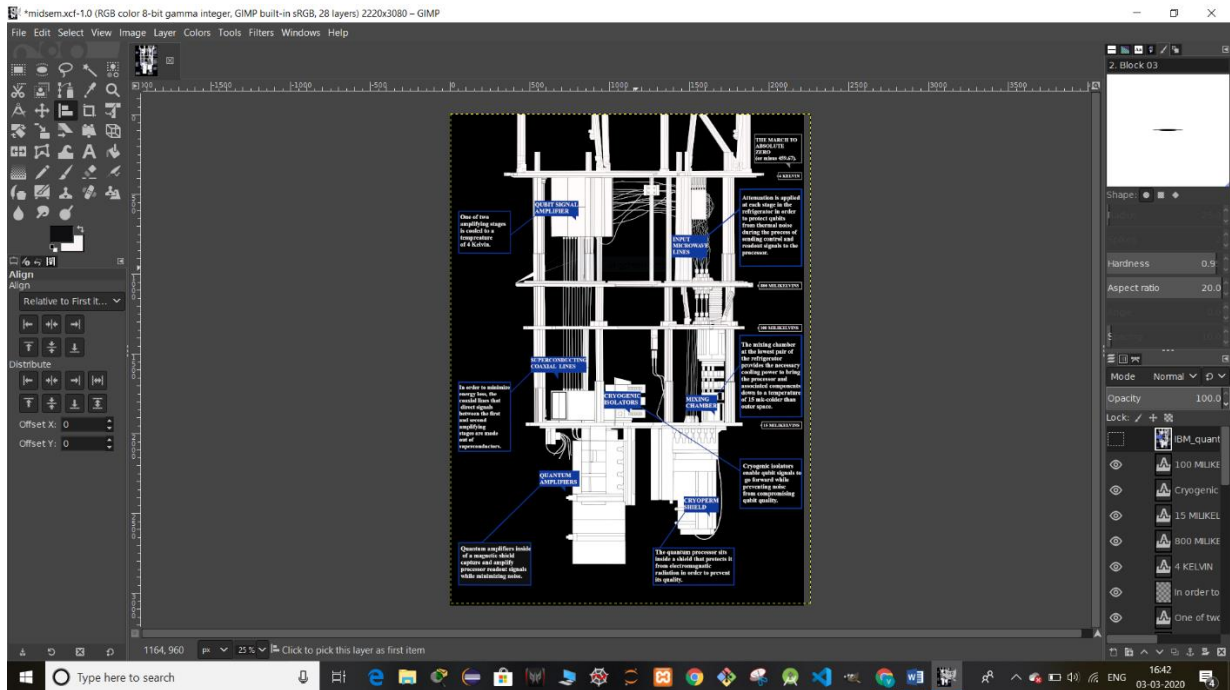11. Use line width wisely.
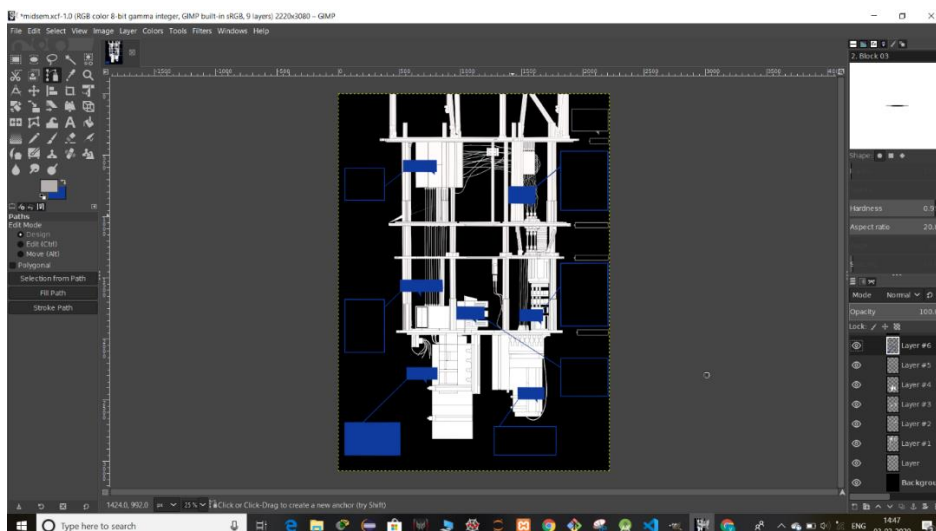
12. Now add another layer and Create Labels Using the path tool and fill colour.
13. Here the colour used is Royal blue (1440a0) as labels must be eye catchy.
14. For the text representing cooled temperature of the Quantum computer we used grey colour.

15. For writing the text we used the text tool
   - Font used in text: TIMES NEW ROMAN
   - Kerning:0.0
   - Leading: 0.1
   - Tracking:0.2
   - Text Size : 36-38
   - Text Colour: White
   - Text Opacity:100%

QUESTIONS/ANSWERS:

Question-: Why Used Royal blue for the text box?

Answer-:

In my project most of the work is made with just black and white strokes for the text part I need to get the attention of the person who is watching and for that Royal Blue is the one that suits my work as well take the attention of the person towards the text written in the blue boxes.

Question-: Why used grey colour for some specific boxes?

Answer -:

For some of the boxes I have used grey colour as these boxes are representing how cool is the temperature of that part of Quantum computer is and that should be represented by a colour that soothes our eyes.

Question-: Why used Times New Roman?

Answer-:

The reason for using times new roman is that it is bold and comes in the category of serif and is used in newspapers to fit most of font so I used it as I want to fit most of the text in the box and also don't want to mess up the text and for that purpose times new roman is best suited.

Question-: Why and how much kerning, tracking and leading is used?

Answer-:

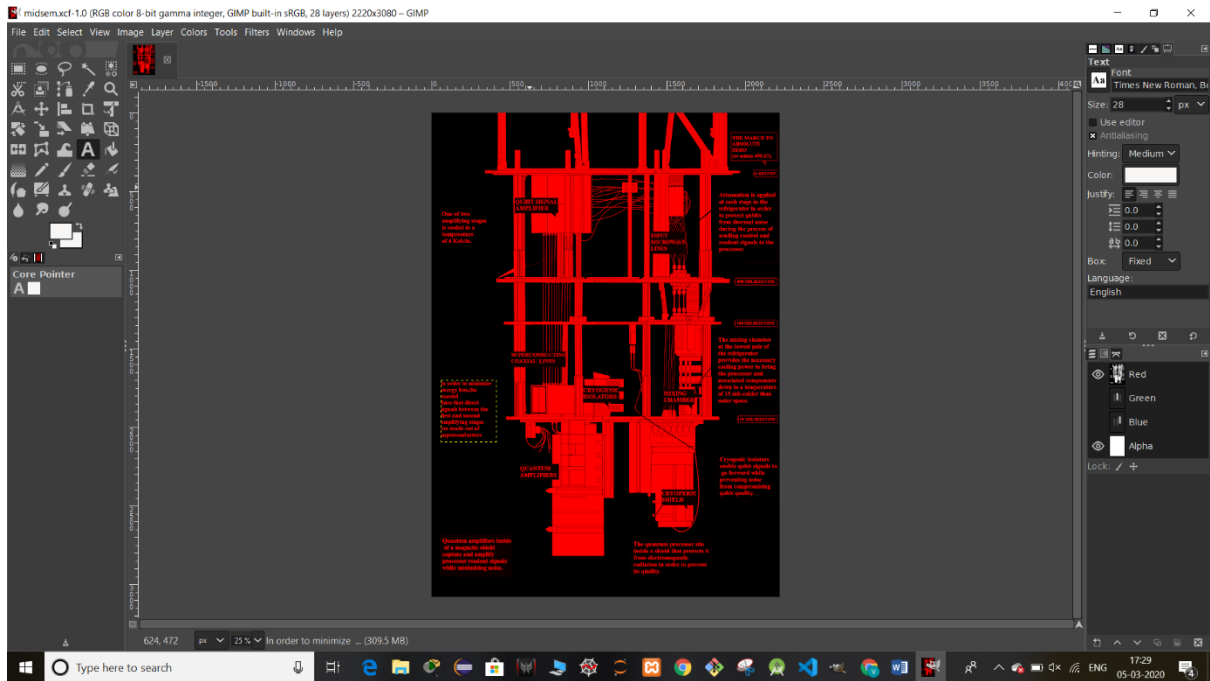Kerning Used :0.0 as I don't want to reduce the horizontal space nonuniformly.

Tracking Used:0.2 so to do uniform reduction of space between characters to fit things in the defined box.

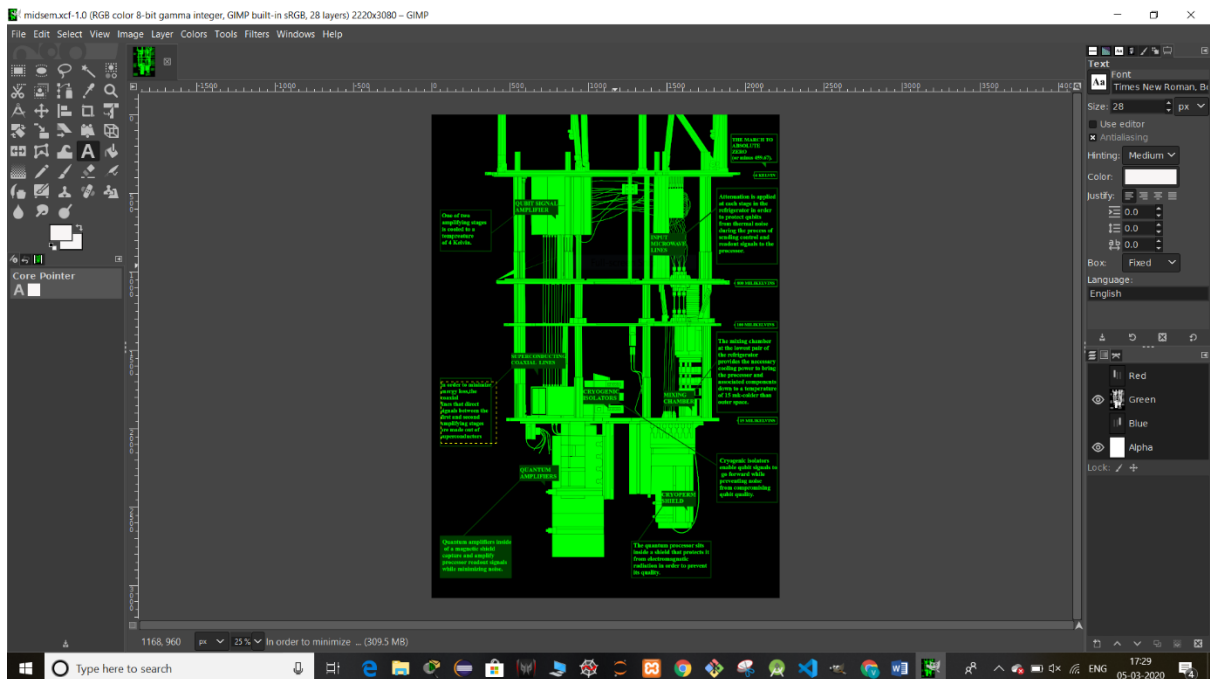Leading Used:0.1 to increase the vertical space between the lines a little bit.

Effect of different Channels on my work

Effect of Red:

Effect of Green:

Effect of Blue:
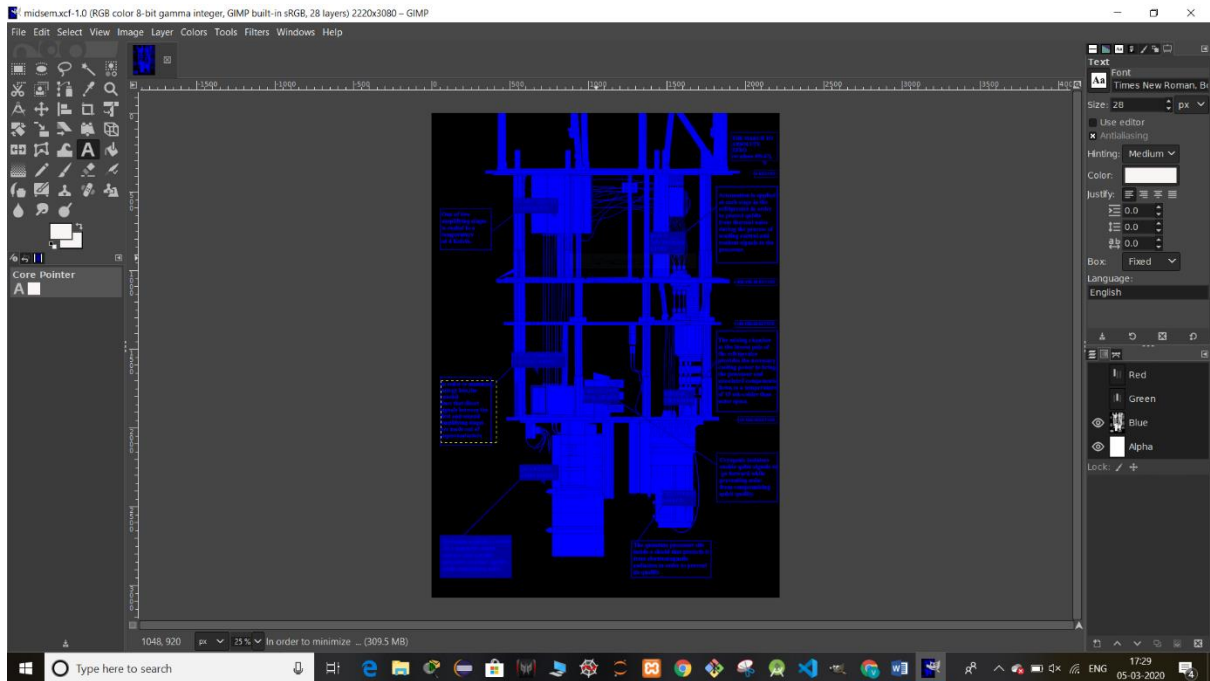
Effect of Red and Blue
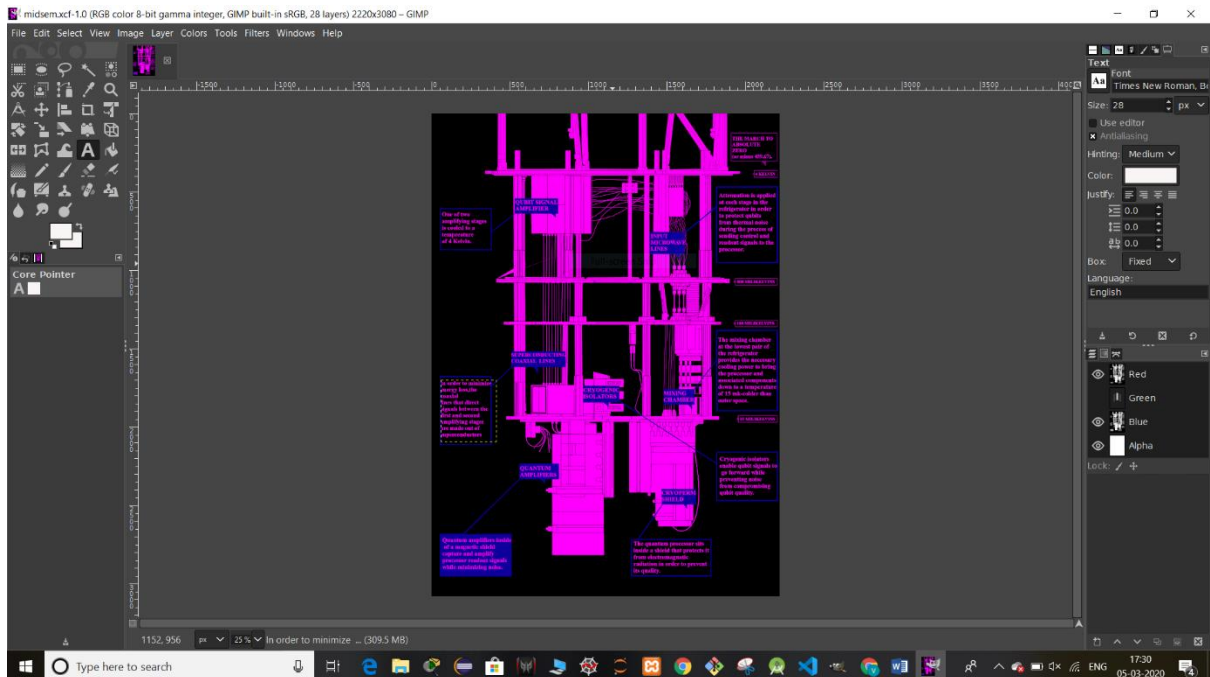
Effect of Green and Blue
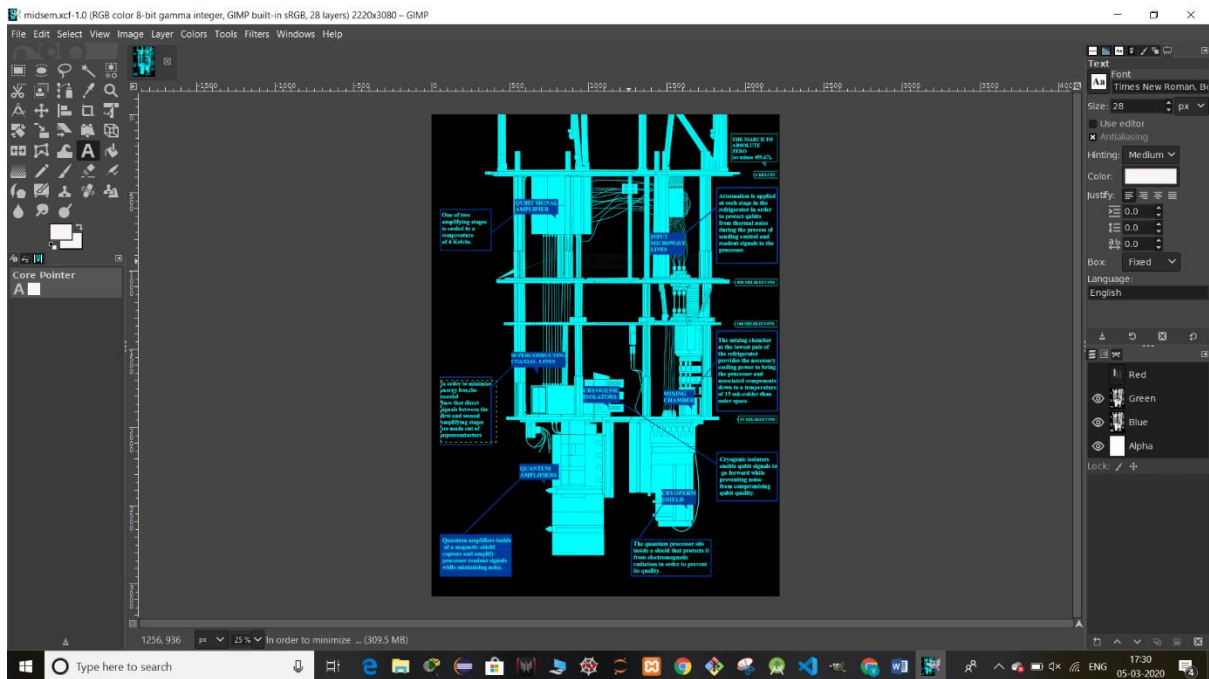
Effect of Red and Green
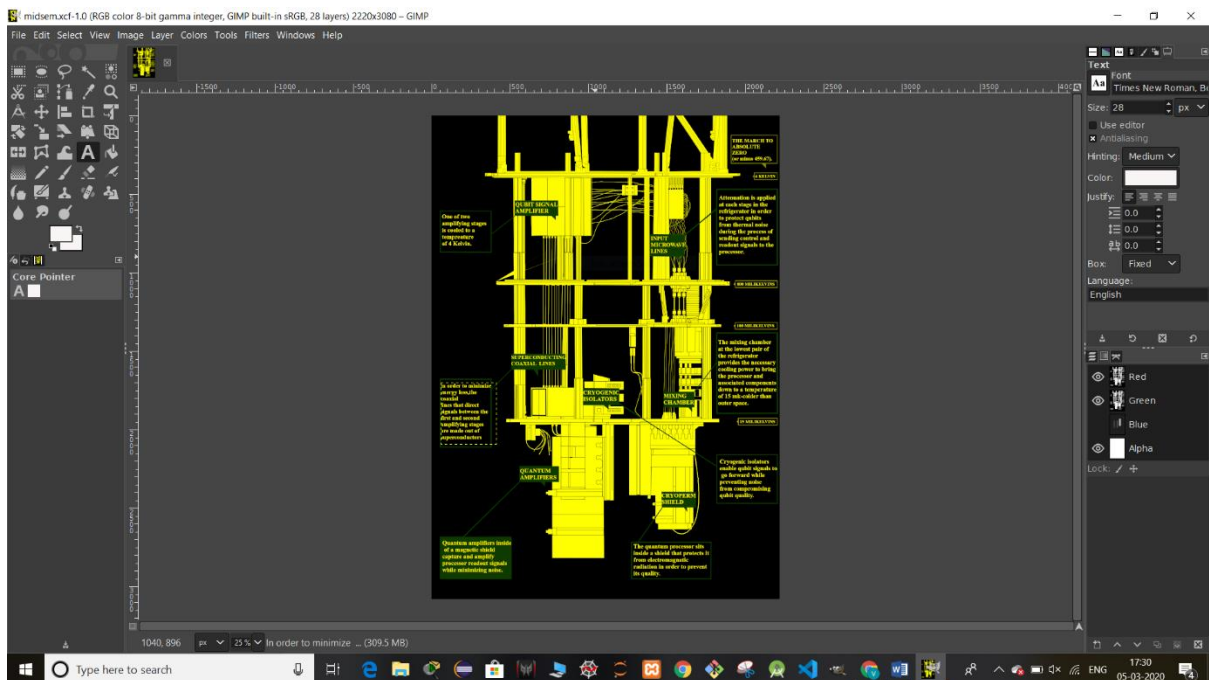
In my opinion the combination of green and blue that is cyan is best suited for the Quantum Computer as Quantum Computer works on

very low temperature that is even lower than the space and is lowest temperature achieved by the humans and this color makes eyes cool.

On the other the worst to be used is red as red indicates danger and high temperatures and is opposite of what a Quantum Computer is.

Blue make everything messy and is itching in eyes in my project.

The rest of Combinations are fine.

FINAL OUTCOME:

THE MARCH TO ABSOLUTE ZERO (or minus 459.67).

4 KELVIN

QUBIT SIGNAL AMPLIFIER

INPUT MICROWAVE LINES

One of two amplifying stages is cooled to a tempreature of 4 Kelvin.

Attenuation is applied at each stage in the refrigerator in order to protect qubits from thermal noise during the process of sending control and readout signals to the processor.

800 MILIKELVINS

100 MILIKELVINS

SUPERCONDUCTING COAXIAL LINES

CRYOGENIC ISOLATORS

MIXING CHAMBER

In order to minimize energy loss, the coaxial lines that direct signals between the first and second amplifying stages are made out of superconductors.

The mixing chamber at the lowest pair of the refrigerator provides the necessary cooling power to bring the processor and associated components down to a temperature of 15 mk-colder than outer space.

15 MILIKELVINS

QUANTUM AMPLIFIERS

CRYOPERM SHIELD

Cryogenic isolators enable qubit signals to go forward while preventing noise from compromising qubit quality.

Quantum amplifiers inside of a magnetic shield capture and amplify processor readout signals while minimizing noise.

The quantum processor sits inside a shield that protects it from electromagnatic radiation in order to prevent its quality.