Groupe International de Recherche sur l'Enseignement de la Physique
International Research Group on Physics Teaching
Internationaler Arbeitskreis zur Foderung des Physikunterrichtes

Building a Visible Light Spectrophotometer as a Resource for STEM Activities

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introduction

1. Contemporary skills and competences

2. Pandemic presented a delicate scenario in education

3. STEM activities

Experiment proposal

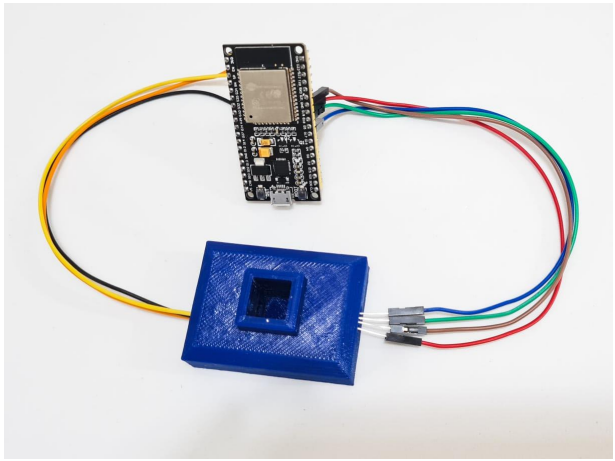
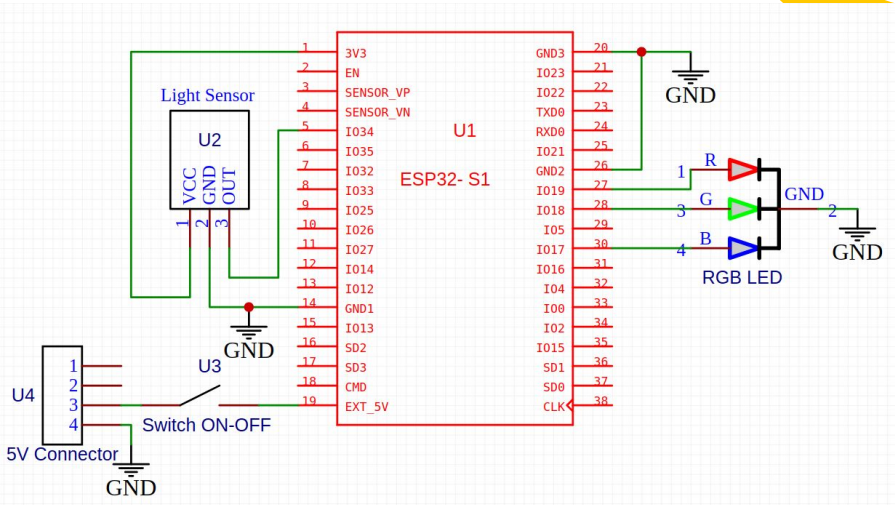


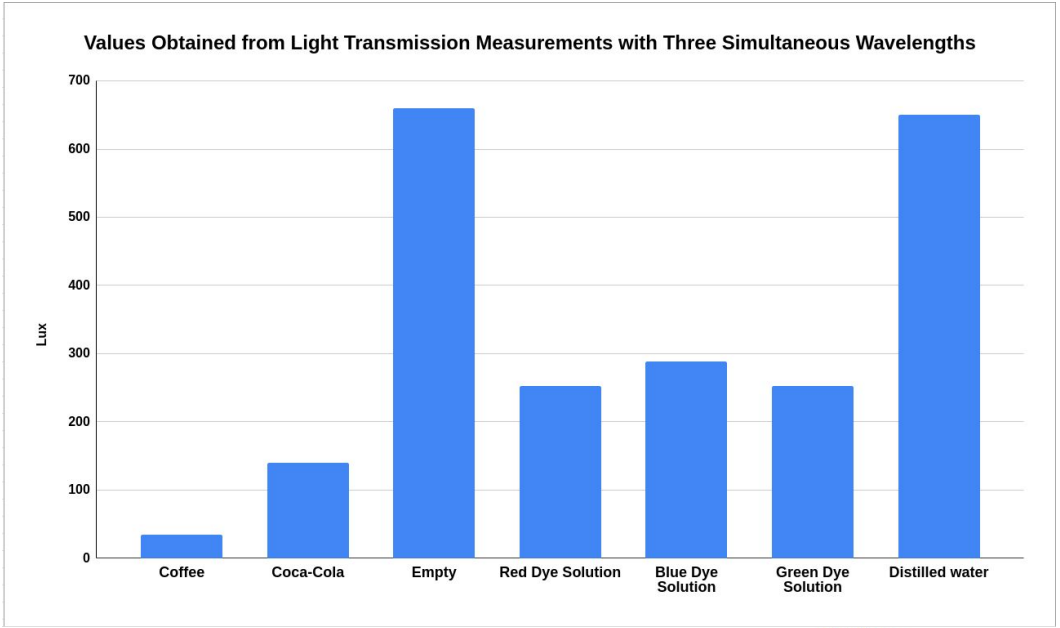
Image of the Assembled Experiment

Some of the samples used



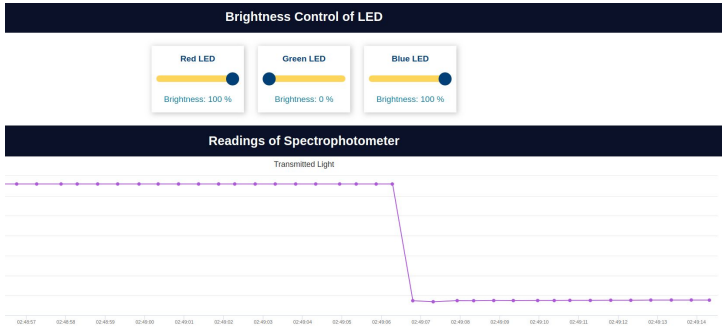
Electronic Circuit Schematic Diagram

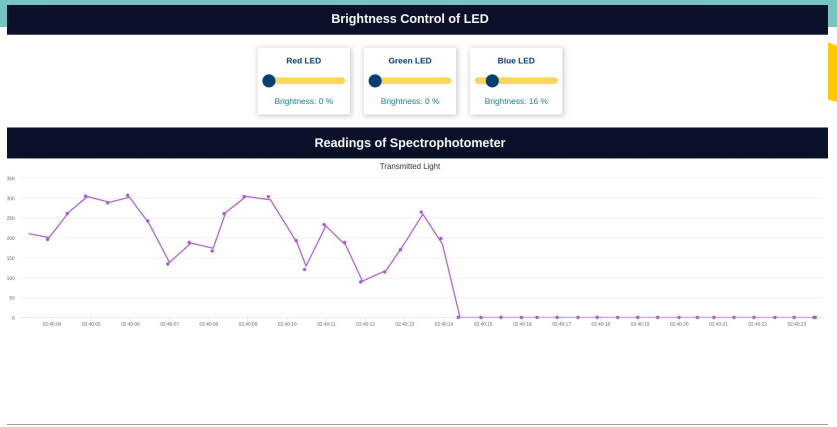
Results Obtained



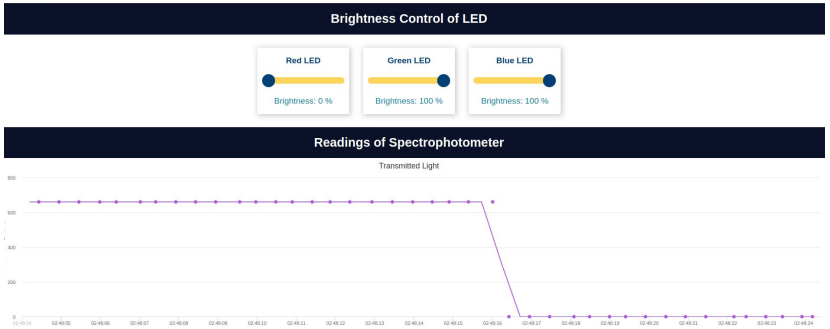
	Red LED(630nm)	Green LED(515nm)	Blue LED(465nm)
Coffee	22	0	0
Empty	336	493	569
Red Dye Solution	262	0	0
Blue Dye Solution	0	12	381
Green Dye Solution	0	200	0
Distilled water	200	450	518

The importance of a remotely or in-person experiment





Screenshots of the control and data acquisition system



CONSIDERATIONS

Use of open-source technological materials

Experimentation mainly for concepts with a certain degree of abstraction

The importance of experimentation for classes with STEM approach (Examples: Biology, Physics, Mathematics)

References

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THANKS

Do you have any questions?

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https://github.com/ArquimedesLuciano/GIREPWEBINAR2021