

MEDNET

Model Exchange & Development of Nursing &
Engineering Technologies



Vein Finder

Vein_Finder.zip

MEDNET File:

Description

A 3D printed casing with a series of red LED lights, a battery holder, and a switch soldered together.

Features

A battery holder with a battery is soldered to an array of red LED lights aligned in a semicircle. The red lights are used because red light can penetrate the skin. These components are encased in a PLA printed 3D model.

Development Information

Materials needed: PLA filament, LED lights, solder, switch, battery holder, soldering equipment

Finished dimensions: 5.125"x 1.5"x 0.75"

PLA filament $\approx$ 0.095 of a roll (9hrs 30 min)

LED lights $\approx$ 11 lights

Solder $\approx$ 1.5g

Switch $\approx$ 1 switch

Battery holder $\approx$ 1 battery holder

AA Batteries $\approx$ 2 Batteries

Production time $\approx$ 11 hrs

Approximate materials cost: \$7.00

Instructions for Use

To operate the Vein Finder one must flip the switch located on the front of the model to turn the red LED lights on. To see the veins on the patient, hover over the patient's skin. The veins should be able to be seen in the center of the opening on the top of the finder.

Material Procurement Information

Filament: Hatchbox Filament 1.75mm - \$22.99/roll (prices vary per color)

https://www.amazon.com/HATCHBOX-3D-Filament-Dimensional-Accuracy/dp/B00J0ECR5I/ref=sr_1_4?crid=2GJUX43SIM4TP&dchild=1&keywords=pla+filament+1.75mm&qid=1590077168&s_prefix=pla+filament%2Caps%2C178&sr=8-4

LED lights: Gauge Cluster Instrument Light Emitting Diode 5mm 12 Volts LED Red 9v-12v, 50 pcs - \$9.99

https://www.amazon.com/dp/B074SV3RPZ/ref=sspa_dk_detail_4?pd_rd_i=B074SXKMYH&pd_rd_w=zYb8u&pf_rd_p=48d372c1-f7e1-4b8b-9d02-4bd86f5158c5&pd_rd_wg=vYgLr&pf_rd_r=NYBJSZEHC5CAX8TCXVQJ&pd_rd_r=2669df83-6768-4d94-a340-a51dddf87480&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUExS1hTTUtJUkxUWFRJmVuY3J5cHRlZElkPUFwMDI1MzIxVE1BNkw2N1JlOVExMjMwY3J5cHRlZEFkSWQ9QTAwOTE1NDUyWjY3N0JHRFMzRUhFJndpZGdldE5hbWU9c3BfZGV0YWlsJmFjdGljbG1ja1JlZGlyZWNOJmRvTm90TG9nQ2xpY2s9dHJ1ZQ&th=1

Solder: Maiyum 63-37 Tin Lead Rosin Core Solder Wire for Electrical Soldering, 0.8mm, 50g - \$8.59

https://www.amazon.com/MAIYUM-63-37-Solder-Electrical-Soldering/dp/B075WBQYRG/ref=sxin_9_ac_d_pm?ac_md=1-0-VW5kZXIglJDEw-ac_d_pm&cv_ct_cx=solder&dchild=1&keywords=solder&pd_rd_i=B075WB98FJ&pd_rd_r=03dd3991-dc11-49cd-964a-08dd92e93ef1&pd_rd_w=zBPE1&pd_rd_wg=23Pwn&pf_rd_p=65218b5e-9d60-4e42-83ae-a40c4223301c&pf_rd_r=8X4AH3K5HAG9Z8YBQGVQ&qid=1592414330&sr=1-1-22d05c05-1231-4126-b7c4-3e7a9c0027d0&th=1

Switch: Mini Boat Wired Rocker Switch 2Pin Toggle SPST Switch Snap with Lines, 10 pcs - \$7.28

https://www.amazon.com/VQVAAQ-Solder-Rocker-Switch-Pcs-Red/dp/B07B9RPLZD/ref=sr_1_7?dchild=1&keywords=small%2Belectrical%2Brocker%2Bswitch&qid=1592414974&s=hi&sr=1-7&th=1

https://www.amazon.com/YXQ-10Pcs-Battery-Holder-Storage/dp/B0788STY5N/ref=sr_1_6?dch_id=1&keywords=battery+holder+solder&qid=1592415174&s=hi&sr=1-6

https://www.amazon.com/RAYOVAC-60-Pack-Alkaline-Batteries-815-60PPK/dp/B00XWP91KA/ref=sr_1_3_sspa?dchild=1&keywords=AA%2Bbatteries&qid=1592416096&refinements=p_85%3A2470955011&rni d=2470954011&rps=1&sr=8-3-spons&spLa=ZW5jcmlwdGVkUXVhbGlmaWVyPUEyYUINN1NjMjIjMUFoZj mVuY3J5cHRlZElkPUEwOTQyOTExMjA5WFZEWkNXV0gyWiZlbnNyeXB0ZWRBZEIkPUEwMTA0NTly VTMxR1kwVTdEWDJMJndpZGldE5hbWU9c3BfYXRmJmFjdGlhbG91bG91a1JlZGlyZW90JmRvTm90TG9 nQ2xpY2s9dHJ1ZQ&th=1

*citation: Vein Finder. MED-NET. Retrieved from uahmednet.org. Adapted from thingiverse.com.