

Build a USB Digital Microscope in 60min and 15\$

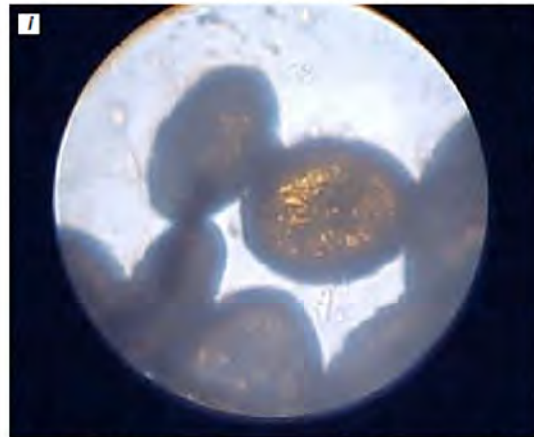
by moris_zen

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intro Build a USB Digital Microscope in 60min and 15\$

How to turn a 10\$ microscope and a 5\$ USB camera into a cool digital microscope in 60 minuets.



step 1 Disassmble any USB simple webcab

Just remove any screws and plastic cover that is not needed. This webcam cost me 5\$ - very simple low resolution web cam.



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Published: Dec 14, 2007

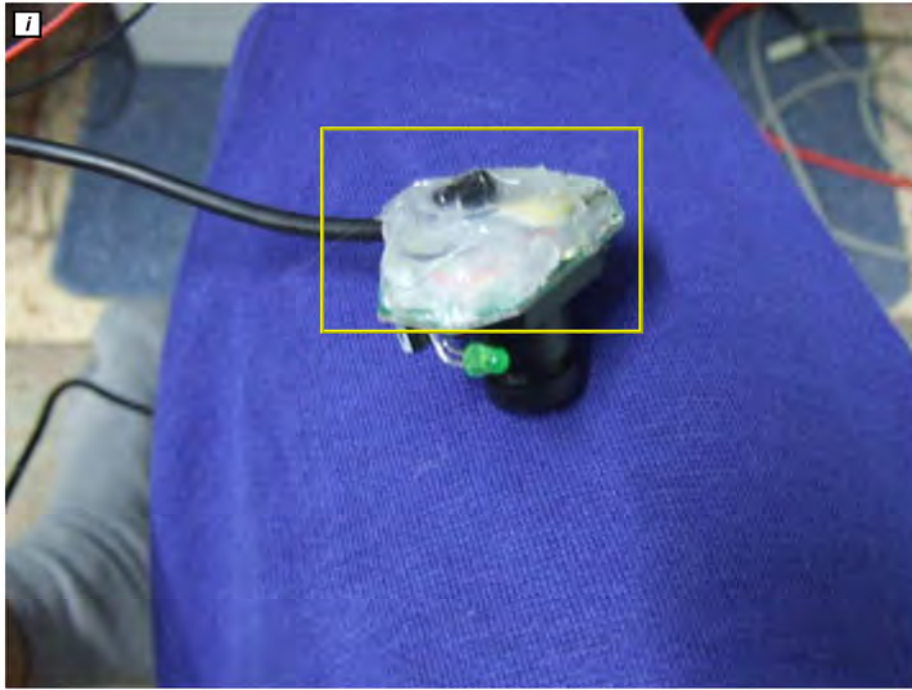
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step 2 Place hot-glue over the electronic side of the camera so it won't get damaged.

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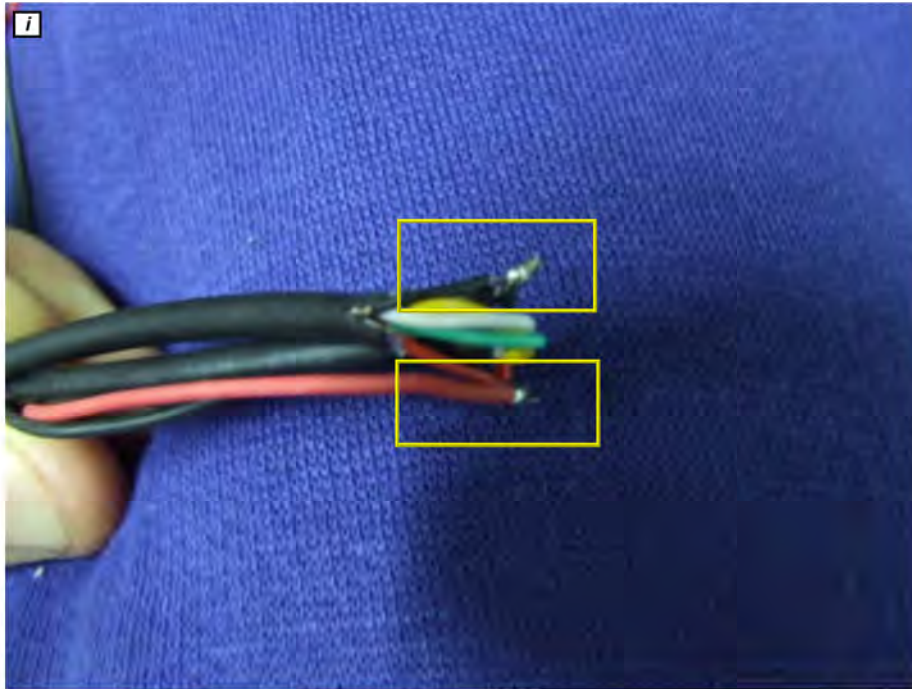


step 3 Remove the insulation from the cable & add a red and white wire.

Use a cutter or a small knife to remove the insulation (BE VERY CAREFUL - DO NOT CUT YOURSELF!)

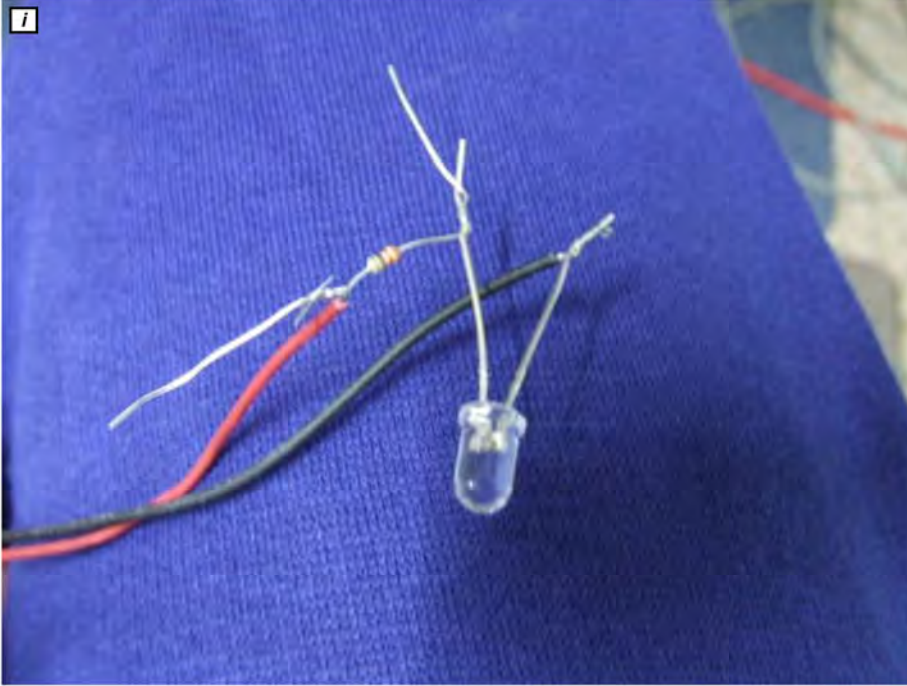
Cut the red and black wires and reveal the copper wiring .

Connect two additional extensions for these cables (5V DC) and solder the red together and the blacks together (not red to black!)



step 4 White LED connection

connect a 50 to 330 Ohm resistor to the red wire and the other side to the long LED line .
Then connect the black wire to the short LED lead.



step 5 Connect the white LED

1. Solder the LED lines and connected and isolate with isolation electric tape.
Remove the mirror from the bottom and connect a toothpick to the two holes that remain.
connect the LED to the toothpick with hot-glue.



step 6 Connect the camera

while you view the image via the SW used for the webcam - position it so you get a clear image . you may need to play with it for a while .

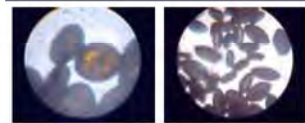
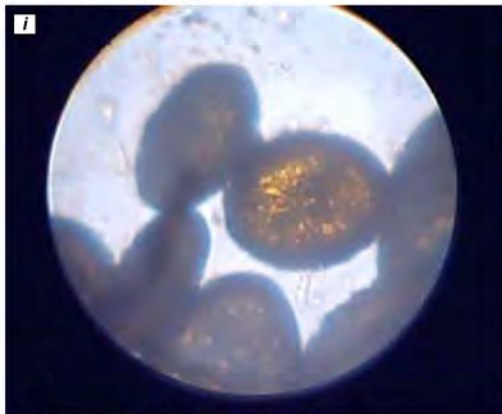
After you find the exact location use a hot glue gun to fix it to that position .

Then tape the wires tidily to the microscope and start taking pictures...



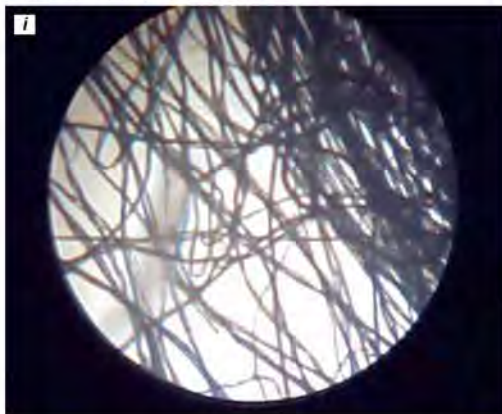
step 7 Pictures of Pollen (150x 300x 600x)

Pictures of Pollen (150x 300x 600x)



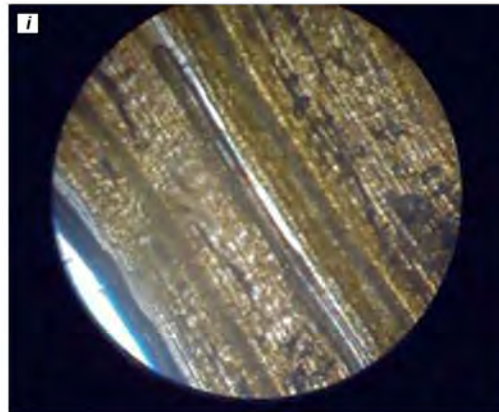
step 8 Pictures of Cotton(150x 300x 600x)

Pictures of Cotton(150x 300x 600x)



step 9 Pictures of Grass(150x 300x 600x)

Pictures of Grass(150x 300x 600x)



step 10 I hope you like my instructable - If you do - please rate it

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