Laptop to Desktop Conversion

by **Michael Chen** on June 2, 2011

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Intro: Laptop to Desktop Conversion

In this instructable, you will learn how to transform an old, broken laptop into a nice desktop. This project involves a total rework of the computer case. With this mod, you can give new life to an old laptop.In order to do this, you do not need any advanced craftmanship or tools (but if you have them, they will come handy).

Background: a friend of mine gave me a laptop for free. It had a totally broken case (hinges and all) and a dead battery. So i said... what is this useful for? A desktop, of course.

PS. This would look great wall mounted. It can also be made into a tablet (although rather heavy) by adding a commonly available touchscreen kit.

PSS. I'll add more pictures this week.

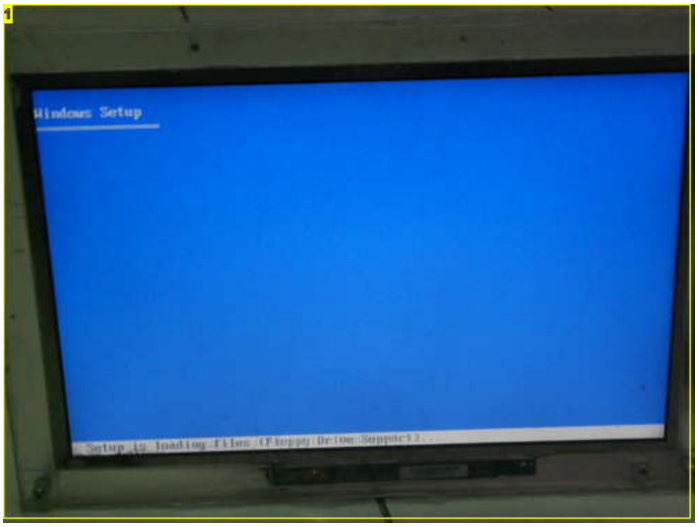

Image Notes
1. End result

Image Notes
1. Lateral view

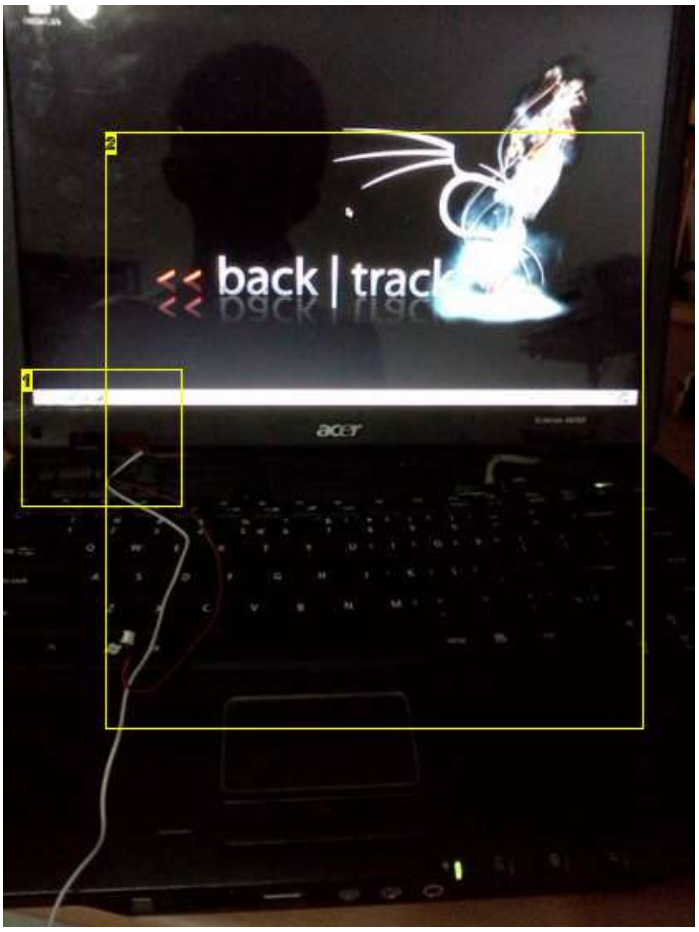

Image Notes
1. Broken hinge
2. The donor

Step 1: Materials and tools

To accomplish the mod, you will need several materials and tools. The materials are:

-Enough acrylic to cut three scree-sized panels (varies on laptop size and craftsmanship--read below)
-Four screws at least the size of the expected thickness (depending on laptop, see next steps)
-Eight nuts for the above screws; four of them normal and the other four locknuts.
-Enough screws to secure the motherboard; depends on laptop.
-Spacers (the screws used to secure the motherboard must fit in the, the size depends on the motherboard.
-A pushbutton (the new on-off switch)
-About three feet of wire.
-The most important material: a laptop.

Tools

-A drill
-A hacksaw
-Screwdriver
-Soldering Iron
-Elbow grease

Image Notes
1. Acrylic

Image Notes
1. Wire
2. Screws and nuts
3. Some of the spacers (you will need more, about eight at least)
4. Pushbutton

Step 2: Dissasembly

Disassemble the laptop. Each laptop is different, so I cannot provide specific details. From my experience, there is almost always a screw under the keyboard that prevents you from separating both halves. At the end, you want to end with the screen, the motherboard, and things such as the hard drive and the ram. The touchpad, keyboard, and webcam will not be installed, these will be external. (Common USB keyboard)

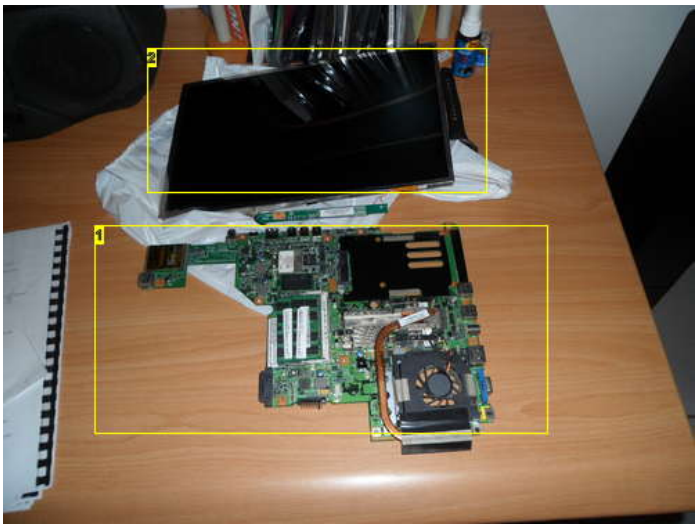

Image Notes
1. Motherboard
2. Screen

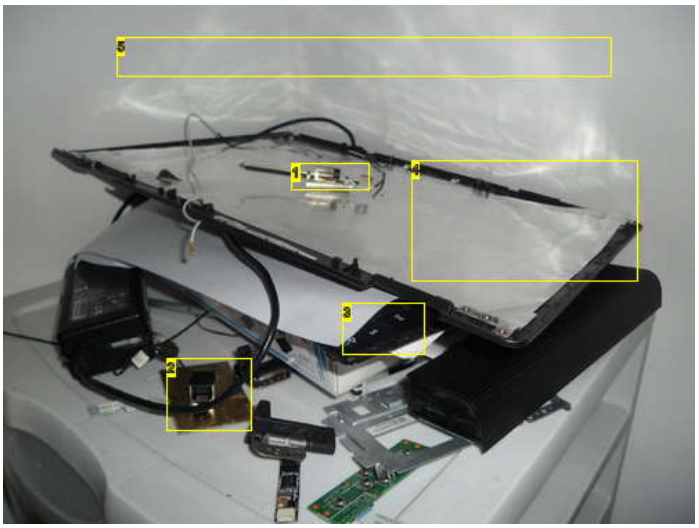

Image Notes
1. Wifi antena
2. Touchpad
3. Keyboard
4. Case Remains
5. Thrash

Step 3: Front face

Measure the screen and cut an acrylic pane larger than the screen's border. The exact amount you must leave to each side depends solely on your craftsmanship. The better you are, the less margin you will need. (Bear in mind that there must be a margin in both sides, so the final size would be the screen size plus two times the margin)

If you are like me (aka bad), leave a wide margin, around an inch to each side of the screen. This gives you a large margin in case you need to drill something again. This large sheet will be the front cover.

Then, cut some strips such that they overlap the bigger cover on the margin. This means that if you left a 1 inch border, you must cut four 1-inch thick strips and place them along the corner. The void in the center is the place where the screen will be, the strips will maintain the screen centered.

Drill four holes, one in each corner of the cover and their corresponding strip, and insert the 4 main screws. Do not insert any nut in these screws yet.

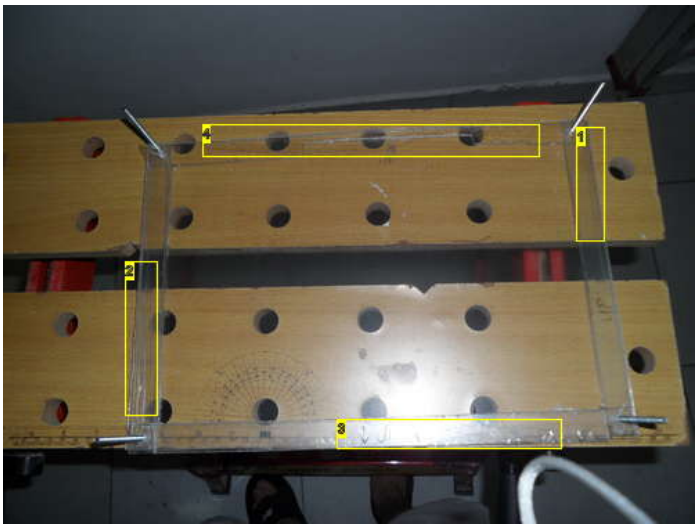

Image Notes
1. One inch border
2. One inch border
3. One inch border
4. One inch border. You might need to make a notch in the lower strip for the screen's inverter to fit. This photo, is inverted, which is why it is facing up.

Step 4: Middle cover

Cut another acrylic sheet, the same size as the one that corresponds to the main cover (which is the screen size + your selected margin) drill four holes at the exact same location and make sure the screws go through.

Make a slot for the screen's cable. to do this, drill four consecutive holes using the drill, and then file out the irregularities. Insert this cover on top of the screen, which should aready be residing in the front cover between the strips.

This is similar to a sandwich. At this point, you can insert the normal nuts into the screws.

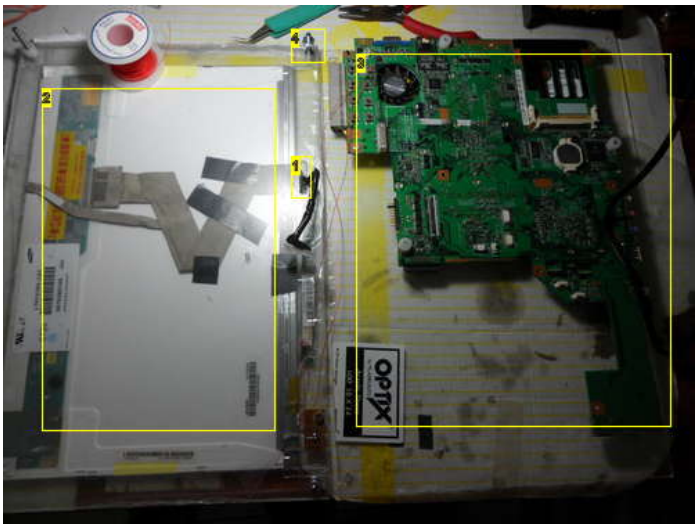

Image Notes
1. Screen cable slot, made by drilling consecutive holes and the filing irregularities.
2. Screen sandwiched with acrylic plates.
3. Motherboard
4. normal nuts already in place

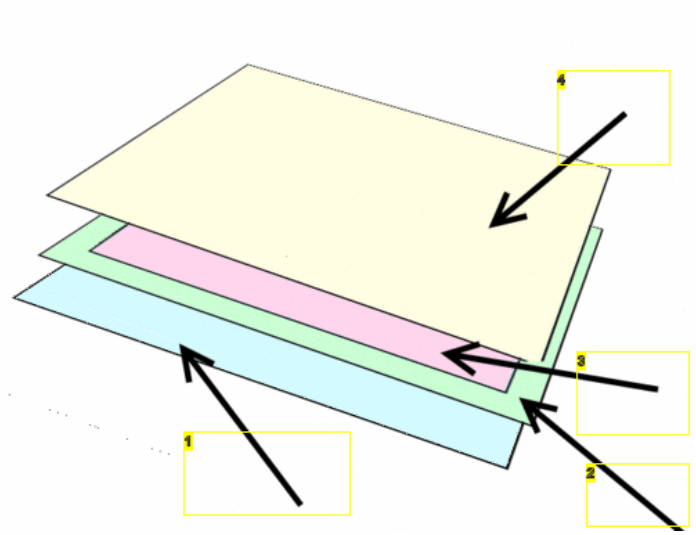

Image Notes
1. Front Panel
2. Margin strips
3. Screen
4. Middle cover

Step 5: Back plate

Now, we are going to make the back cover. First, cut an acrylic plate the same size as the front cover and middle cover. Drill the same four holes you have done with the previous layers. Then, place the motherboard over the middle cover in a way you can connect the video cable to the motherboard; the side that faced up in the original laptop (keyboard side) will most likely be facing down, towards the screen. Connect the cable from the screen to the motherboard and position the motherboard in a way such that the connectors (USB, ethernet, etc) just at the border of the sides of the acrylic.

Then, position the backplate over the motherboard and mark in the acrylic the positions where the motherboard screw holes are. Take off the back cover and drill the holes. Then, reposition the plate over the motherboard and insert the screw.

There are many screw holes in the motherboard, but if you have a bad craftmanship, you can have the consolation that you only need to line up three holes (of the eight or more that the motherboard has). Use the spacers to keep the motherboard level with the middle acrylic layer. The spacers must be present both below and above the motherboard Use the smallest spacers that can be used while still keeping everything level.

Image Notes
1. Screw
2. Screw
3. Screw
4. Screw

Step 6: Fan holes

First, print a fan hole template. I used this one , resize it to your laptop's fan size. In my case, the fan was 4cm tall and 4cm wide.

Place the pattern over the fan and place lots of transparent tape over it, so that when you drill through it, the pattern does not move.

Now, remove the backplate from the rest of the assembly, place it on bench and drill the fan holes with the largest bit that you can comfortably use without risking breaking the pattern and/or the acrylic.

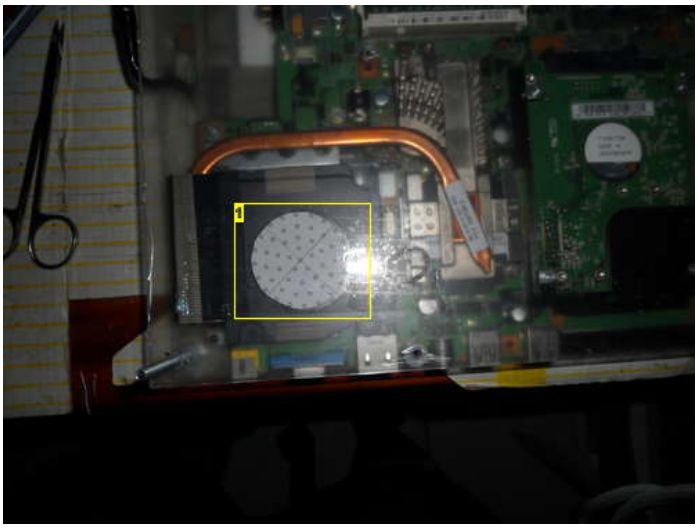

Image Notes
1. Pattern well taped and secured

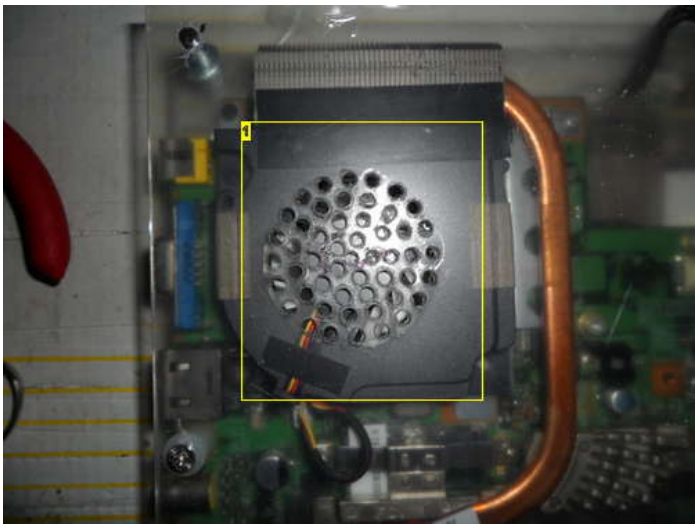

Image Notes
1. Holes drilled, which allow air to come into the fan and prevents overheating.

Step 7: Power button

Most likely, you will have to relocate the power button. To do this, first determine where the power button was originally located. Then, solder a pair of wires to this button.

After this, solder the other ends of the same wire into the pushbutton that will act as a replacement, and then stick it through a hole drilled in the acrylic. The exact dimensions of the hole will varie on the button you choose to employ in your laptop (or desktop, as you want to look at it.

Image Notes
1. New button already p[laced in the acrylic (facing down, you can only see in this picture the terminals)
2. Cables

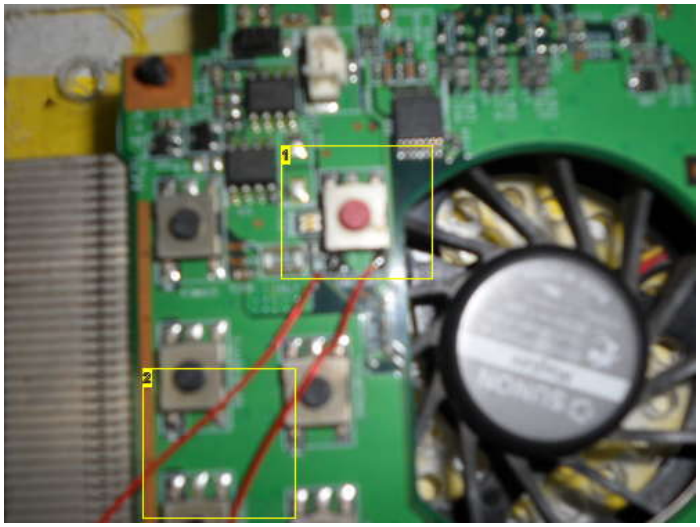

Image Notes
1. Original laptop power button
2. Cables

Step 8: Finish

Now you have a nice desktop (or tablet with a touchscreen kit), sit back and enjoy.

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silencekilla says: Jun 4, 2011. 9:15 PM **REPLY**

Great Instructable, Could Use some more detailed build instructions with a few more pictures other wise Terrific Job. I give it 4.5*'s. aww screw it 5*'s for creativity!!!