Dell-ving into the Dell Inspiron 1545 Laptop

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Summary

We started this project by deciding what we would disassemble. We decided we would disassemble a laptop because a majority of our team had an old one we no longer used. After looking at all of our options, we settled on a Dell Inspiron 1545 laptop. We brought it in and began working on the disassembly and documentation. We were able to pull off a few of the back panels before we became stumped on what the next part to detach was, so we looked up a video on YouTube to see where we should go next. While disassembling, we documented every removed component through photos for later reference. The next time we met up, we looked through the dismantled laptop and the photos that we had taken so that we could begin identifying all of the components and their individual functions. For almost all of the components, we were able to search up whatever serial numbers we could find on the components which lead us to pages that provided us with the components official name and function. After getting a rough write up of the components, we organized them into a Google Doc along with looking through the pictures we had taken and picking which ones we felt best represent the deconstruction process. From this process, we learned more about the compact design of laptops. Many of us have built our own desktop computers in the past which was helpful as it allowed us to roughly identify the components as we removed them. We also learned how much sturdier and secure the components within the laptop were. Many components required multiple screws to be removed or the laptop would need to be flipped over multiple times to remove a component. Overall it was a very interesting and eye opening experience and we hope we can work on something similar to this again.

Parts List

Device: Dell Inspiron 1545

Battery: Dell Battery Module X284G 10.8V 48Wh
        Battery
Screen: BT156GW01 V.4
        Displays information
WiFi Card: Dell DW 1397 mini PCI-e card
        Allows wireless network communication
Mouse Buttons: Dell Inspiron 1545 KP0948 Button Board
        Allows mouse left and right click to work
Charger Board: Dell DR1 08530-2 Charger Board
        Manages power so the battery can charge. Also manages USB ports, VGA display, and
ethernet.
Hard drive: Dell 500 GB 7,200 RPM SATA 2.5" Hard Drive
        Stores digital content
CPU Heatsink: OEM Dell Inspiron 1545 CPU Heatsink
        Increases the heat flow away from a hot device. Increases the device's working surface
area and the amount of low-temperature fluid that moves across its enlarged surface area
Disk Drive: Dell Inspiron 1545 CD/DVD RW Sata Optical Drive AD-75805 U946K 0U946K
        Allows disks such as CDs and DVDs to be read by computer
Card Bus: Dell Inspiron 1545 Card Bus DR1 08532-1 0P822F
        Supports bus mastering which allows a controller on the bus to talk to other devices or
memory without going through the CPU
Motherboard: Dell Inspiron 1545 Laptop Motherboard G849F
        Ties the computers components together all at one spot, allowing for all of them to
communicate
RAM: 2x Crucial 2GB 200-Pin DDR2 SO-DIMM DDR2 667
        Allows the computer to multitask
CPU: Intel Inspiron 1545 1440 Laptop Processor G210M Pentium T4200 2.0 GHz 800Mhz 1MB
        The central processing unit that functions like the brain for the computer
CPU Fan: Dell OEM Inspiron 1545 CPU Cooling Fan
        Brings in cool air to cool down the heat sink, in turn cooling down the CPU
Speakers: Dell OEM Inspiron 1545 Speakers Left and Right
        Allows the computer to play audio
Laptop: Dell Inspiron 1545 K071425BS2
        Allows the user to type information

Pictures

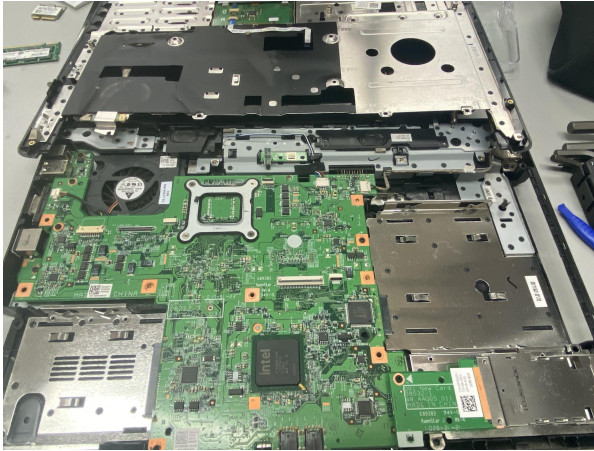Bottom of laptop with battery removed

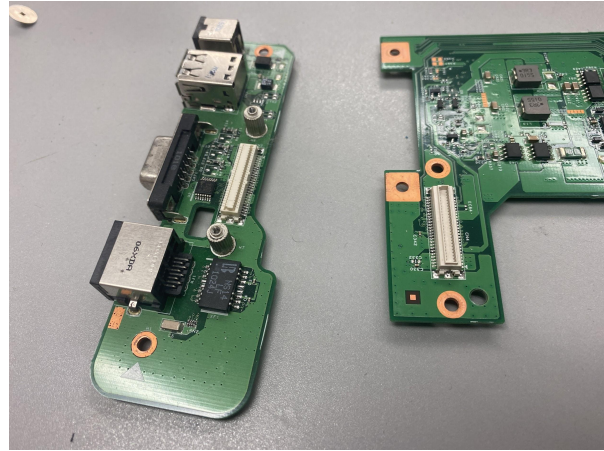First back plate removed

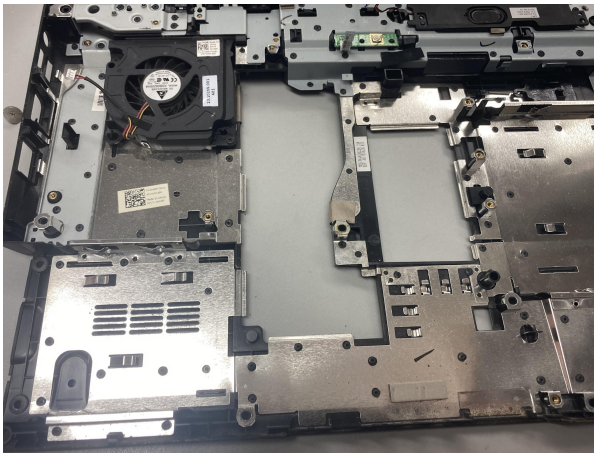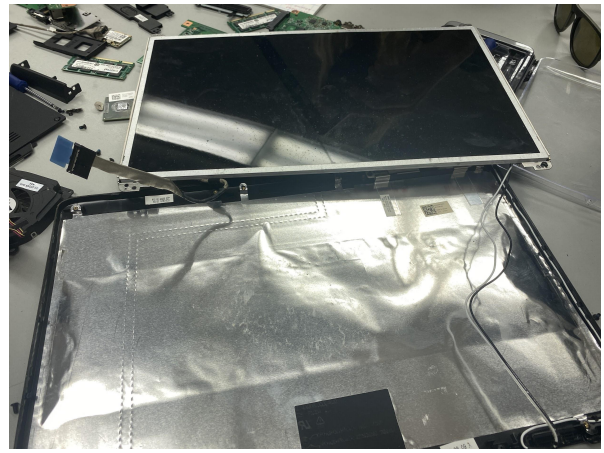Keyboard disconnected

Keyboard moved out of the way

The motherboard underneath the keyboard

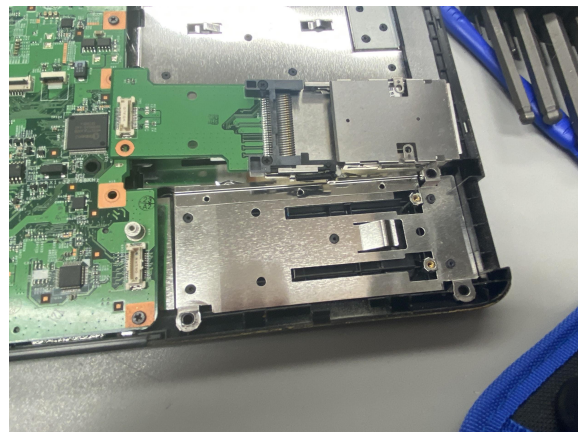The charger board after being disconnected from motherboard

Frame without motherboard
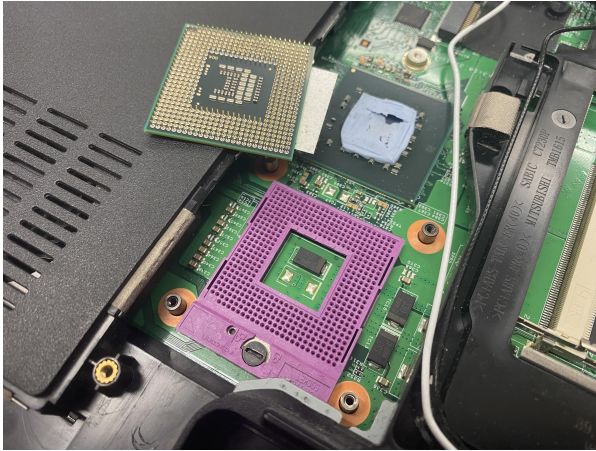

Screen removed from its casing
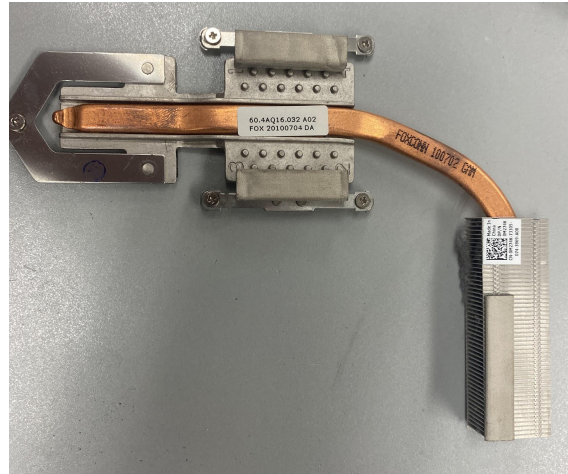

RAM sticks

Card bus

CPU removed from slot

CPU heatsink

Hard drive removed from laptop

Hard drive by itself

Hard drive circuit board removed

Internal disks of the hard drive

Citations:

Dell Website:
https://www.dell.com/en-us/lp/product-solutions?gacd=9684992-1017-5761040-266906002-0&dgc=st&gclid=Cj0KCQiA-eeMBhCpARIsAAZfxZCFajx5vFD5RcR3sOb0RTmHIJuJLXERqKHnjJ1k4a2rONK2RozoWPMaAi4KEALw_wcB&gclsrc=aw.ds&nclid=9YiveMeBvsSXOAWP3ApVr-6nTziJkEC54kBWwjFxDYYkDJVXuPCn93DoV5r0lg6H

Teardown Video:
https://www.youtube.com/watch?v=ldaE6k3EfRU

NewEgg Website:
https://www.newegg.com/

AliExpress Website:
https://www.aliexpress.com/