

Reverse Engineering Online Challenge Report

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Introduction

We chose to deconstruct an iPhone 6 because it is a daily item with complex and compact mechanisms. This report will go into detail about the components of this device. We will include information on their functions as well as images to visually represent our claims. A detailed list of the parts we used to complete this project will also be provided.

Summary of Components found in Device

While deconstructing the iPhone 6 we were able to immediately identify a rear camera, home cable, and battery. The functions of these components are to take quality pictures, connect the home button to the motherboard, and give the device enough power to operate. The home button is used to return to the home screen and, with further research, we were able to discover it has a Touch ID sensor incorporated- to unlock the phone with a fingerprint. The motherboard connects all the elements to work together. We also located a lightning connector, which is the access point for a charging cable; the phone can also connect to other devices from this point of entry. Located at the south end of the device, a headphone jack is where headphones and earbuds can be connected. An earpiece speaker is where sound can be emitted from the device during a phone call. A loudspeaker is where sound can be heard from the device without needing to be near it. We found out that the front camera has an embedded proximity sensor that turns off the screen when the device is raised to an ear. This function can preserve battery life. A volume flex cable regulates the amount of sound emitted from the device while a power button cable turns the device on and off. A wifi antenna controls the movement of radio signals emitted and received from the device. A SIM tray contains the SIM card within the device. A SIM card is a computer chip that stores information and connects the device to a network. An LCD is the touch screen that converts our touch to signals the device can understand. This component has a shield plate that protects the mechanisms from overheating. Overall, each component is contained and supported in the housing.

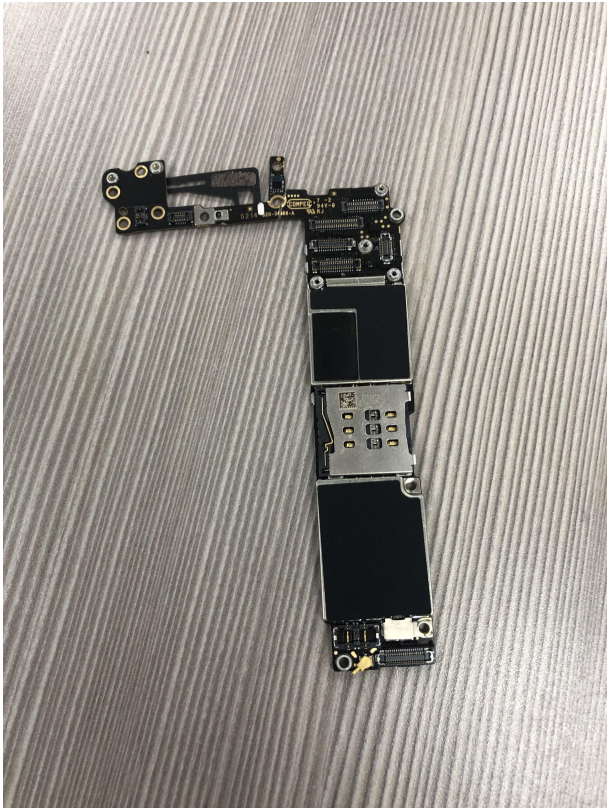
Complete Parts List

- Small Phillips Screwdriver, Item# 5-0016
- Small flathead screwdriver, Item# 5-0017
- Plastic opening tools, Item# 5-0019
- Suction cup, Item# 5-0020
- Nylon Spudger, Item# 5-0022
- Iphone 5 point pentalobe screwdriver, Item# 5-0769
- SIM card ejection tool, Item# 5-1342
- Tweezers
- Heat gun or blow dryer

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Images

The front side of the logic board
(motherboard)



LCD
(touch screen)



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Home button cable



Componentes within Housing



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All parts found within the device (iPhone 6)



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Conclusion

During this project, we learned that even though every element has its own purpose, they work collectively for the proper function of the device. Each component increases the user-friendly appeal provided by marketing and manufacturers.

Citations

"iPhone 6 Teardown." iFixit, July 20, 2020.
<https://www.ifixit.com/Teardown/iPhone+6+Teardown/29213>.

This website was utilized as a reference during the deconstruction of the iPhone 6.

Marshall Brain, Jeff Tyson & Julia Layton. "How Cell Phones Work." HowStuffWorks. HowStuffWorks, November 14, 2000.
<https://electronics.howstuffworks.com/cell-phone6.htm>.

This infographic helped us to identify certain parts within the iPhone.

**ALL PHOTOS AND TEXT WERE CREATED AND TAKEN BY A
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