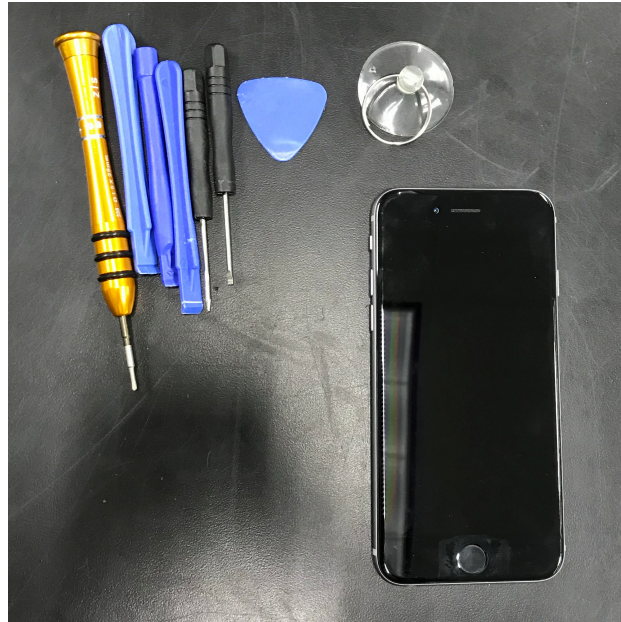


Team 7121D iPhone Exploration

By Victoria Herrera, Nicholas Estenoz, Zane Lebel, Josh Honorat, Gabriel Zaragoza



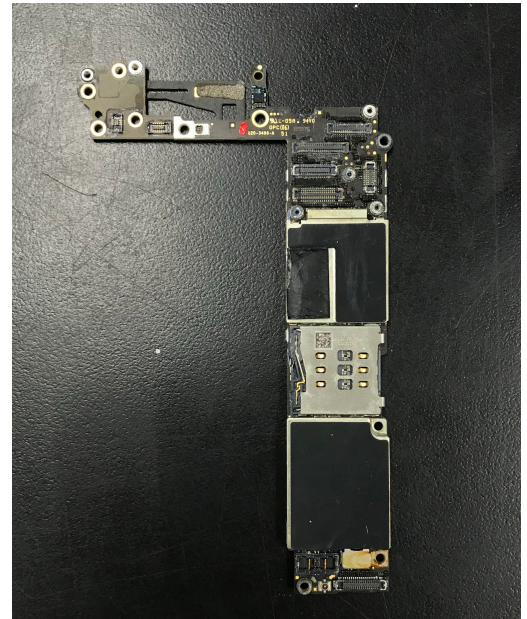
Apple iPhone 6 on the right with required tools for tear down

As of 2017, BMO Capital Market analyst Tim Long estimated more than 700 million iPhones being used worldwide. With these statistics in mind, our team decided we wanted to explore a device that is used worldwide by millions. With little knowledge of the interior of an iPhone, our curiosity raised; so we researched, gathered materials, and the challenge was on. Our team decided to use an iPhone that was already water damaged to make sure we wouldn't damage a functioning iPhone.

First off we must take off the two bottom screws in order to separate the iPhone screen: front camera, ear piece speaker, and LCD, from the base: lithium-ion battery, Touch ID sensors, rear camera, speaker assembly, vibrator assembly, lightning connector and headphone jack assembly, and the logic board. The image on the right shows the two halves. We decided to research the component that we knew least of, the logic board. The logic board being the most important for the functionality of the iPhone contains many intricate parts. Some of the parts include Apple A8 APL1011 SoC + SK Hynix RAM, InvenSense MP67B 6-axis Gyroscope and Accelerometer Combo, Qualcomm [QFE1100](#) Envelope



Tracking IC, SanDisk SDMFLBCB2 128 Gb NAND Flash, Murata 339S0228 Wi-Fi Module, and Texas Instruments 343S0694 Touch Transmitter. The image of the right shows the logic board outside the phone. There are many more important pieces to the logic board that are crucial to the functionality of the system. After investigating the logic board, we explored the rear camera and front camera because we are constantly taking pictures and videos of the world around us; so we wanted to learn more about it. Rear camera contains 8 megapixels True Tone flash, and phase-detection autofocus, it also features electronic image stabilization. Picture of the rear camera below.



Images of the front camera (left) and rear camera (right)



Speaker assembly

This project took a couple of days to complete and a lot of research, but with all of our new knowledge of an iPhone 6 we were truly satisfied with our outcome. To our surprise we found Texas Instrument components inside the iPhone, we were really excited to confirm the Texas Instruments can really be found around us. Once we finished with the tear down we carefully placed everything back together, last picture shows iPhone back together before closing again.

