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Final Summary Report

As we all know Blackberry is the first smartphone, the first ever phone businesses used to access emails and limited web functionality. This made it indispensable to businesspeople prior to the advent of iPhones.

Today Blackberry is less known in the smartphone space as compared to iPhones and Androids but it is still considered a strong platform. With the technology that Blackberry uses I am curious to find out what is this devices made of that could enable and help businesses throughout the world. Did you know that the first smartphone carried by a U.S. president was President Obama's BlackBerry? My teachers also encouraged and approved using this device for the challenge. I am using Blackberry Bold 9930. This is an older model of Blackberry from 2011 and currently discontinued.

For safety reasons I wore glasses during deconstruction and made sure that there are no dangerous electronic components attached. I made sure that Blackberry is completely disconnected from any electrical source or power supply.

I first opened the back of the device which is covered by a carbon fiber like battery door. This is a part for battery, SIM card, microSD slot where typically 32GB of storage can be used. It also has a place for optional media card.

After the back side of the phone, I unscrewed the front of the phone near the keyboard. There were two screws to be removed, this took a little longer than expected. With the screwdriver, I could lever up the entire keyboard. Keypad is still attached like a ribbon cable. It attaches like a plug and socket.

As the keypad was removed, I saw microchips under the keyboard. Majority of these microchips had numbers and letters written on them. I further removed the screen section of the phone. These parts can come apart with little to no force. There is another ribbon cable that attaches like a plug and socket just lever up away from the circuit board. This ribbon connects in a different way and is called a ZIF connector. This ribbon has a data matrix code on it. A data matrix code is a 2D code that is made of black and white cells that are typically arranged in a square pattern. The silver part is a latch that opens and closes on a hinge. Below I can see the latch in the open position. I can now pull the ribbon free. Circuit board can be separated from the screen now. Motherboard for Blackberry is the main and the most expensive element of the Smartphone.

I spent significant amount of time understanding each component on the motherboard and learning about the functions of each integrated circuit. I documented part markings and numbers and tracked down their details. This research helped identify new perspective on smartphones, especially by identifying it's components. Internet forums and YouTube videos has been a major aid in researching and my understanding on how Blackberry phones are made.

Final Summary Word Count: **493** words

1.External View

Figure 1.0: The External Anatomy

Figure 1.1 Front View & Back View

Figure 1.2 Without the back cover

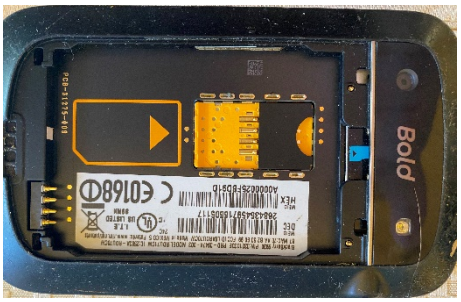
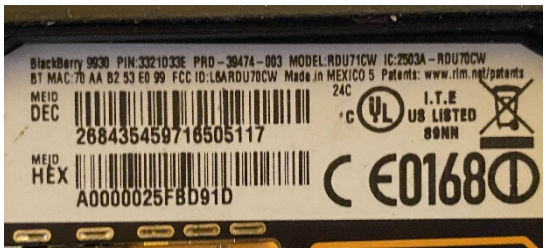


Figure 1.3 Identified Version from Label, Serial No., Model



Deconstruct Process

Figure 2.0 Phone ready to be deconstructed. Start with removing the keyboard

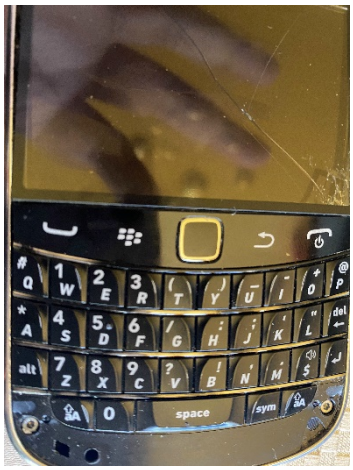
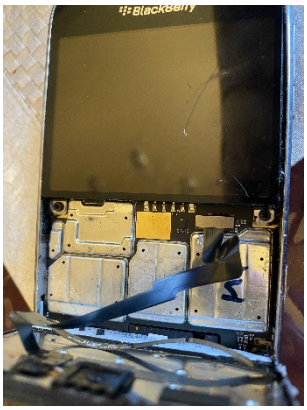


Figure 2.1 Keyboard removed, now it's the screen that needs to be disassembled



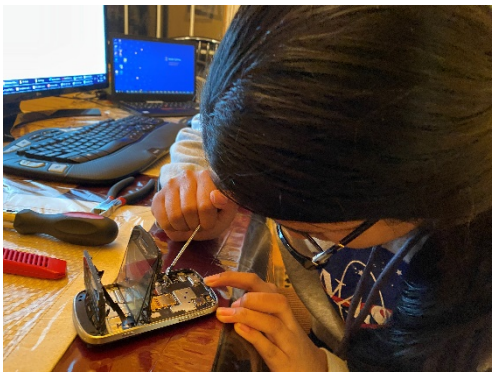
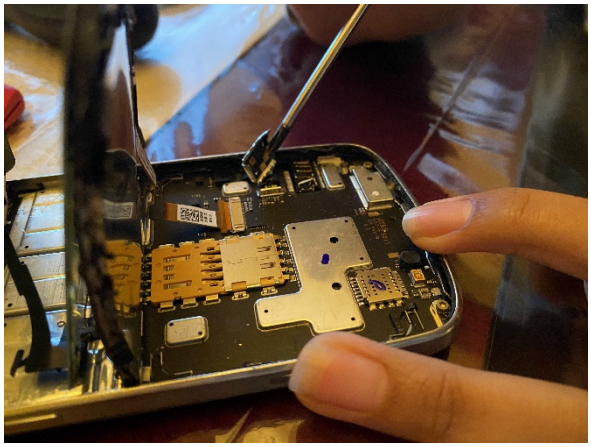


Figure 2.2 Phone now showing the motherboard

Figure 2.3 Removed screws and motherboard



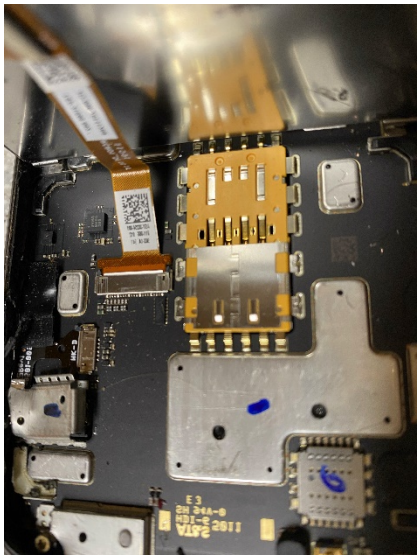
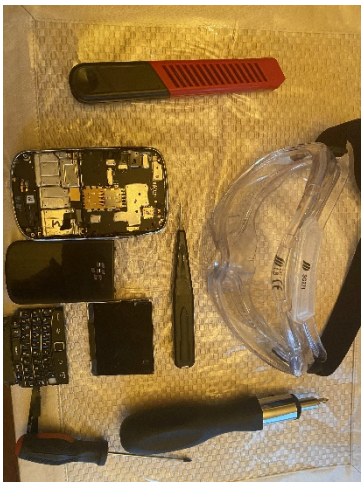
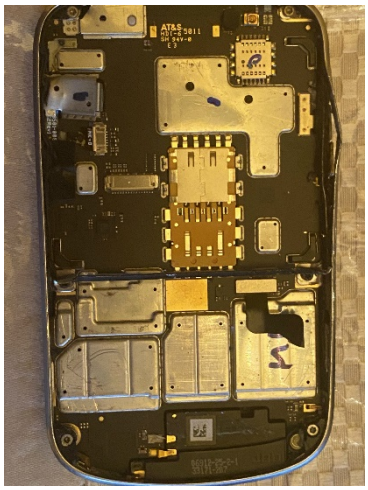
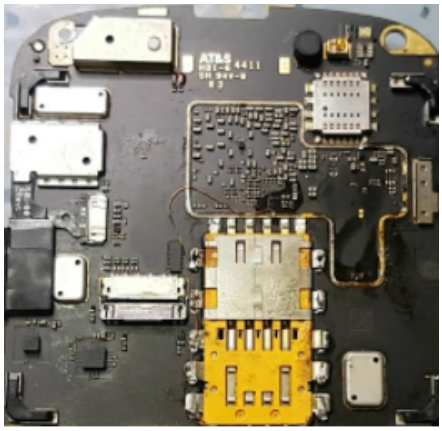


Figure 2.4 Blackberry disassembled, and tools used for deconstruction.



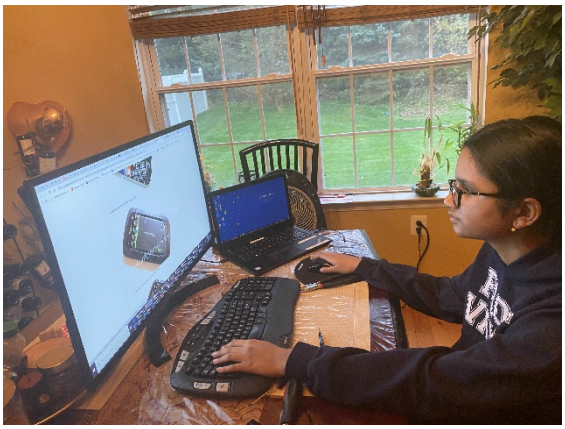




Research Process

Figure 3.1 Used phone as a digital magnifying glass to view components and as a camera

Figure 3.2 Researched forums, blogs, datasheets, overviews, product briefs



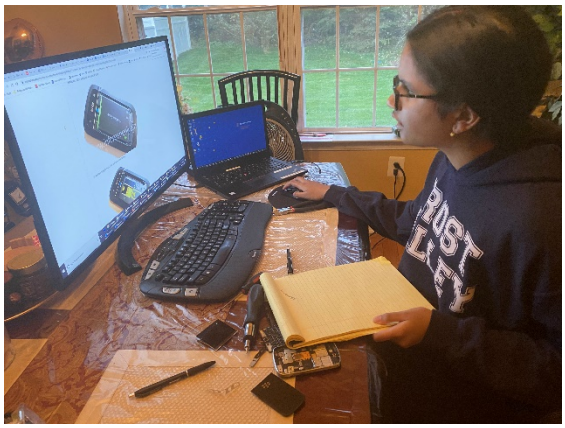
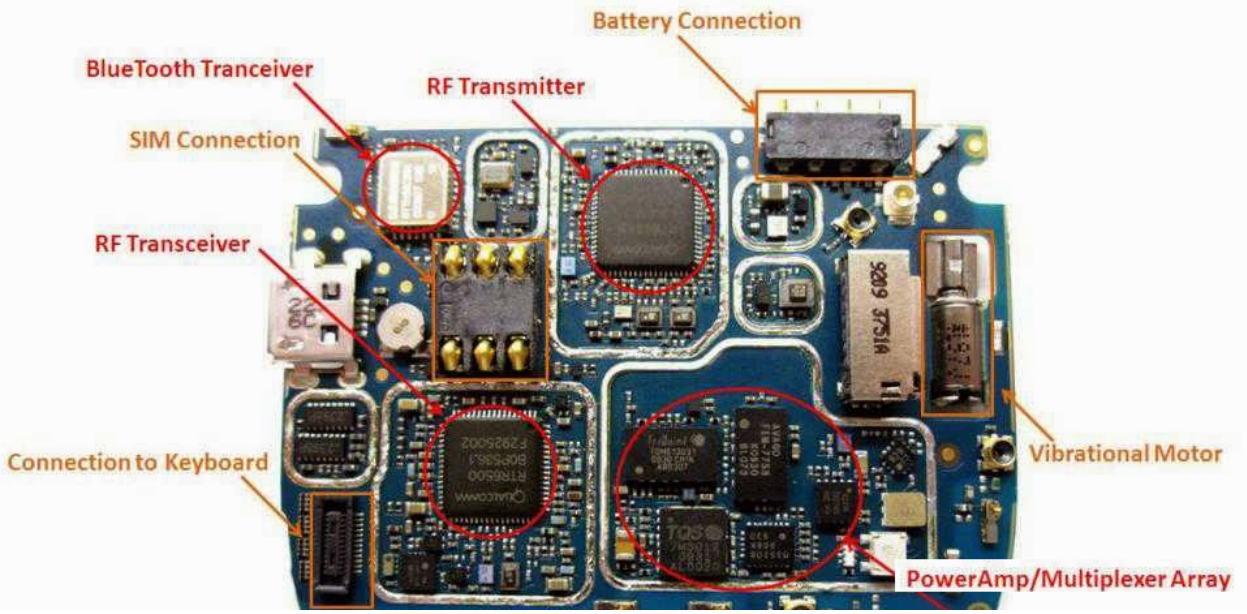


Figure 3.3 Internal Layout.



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