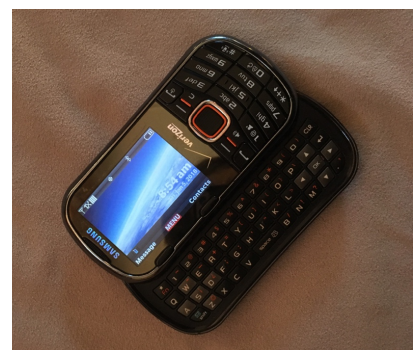


INTRODUCTION

We thought it would be cool to take something apart that had value, something many people use, which had a few different applications, and that we might be able to salvage something from. We went to the Goodwill store, and eventually found a first generation smart phone. After researching it on the internet we have concluded that it is a Samsung Intensity III QWERTY Slider. It's from 2012 and passed military specifications, has a 2.4 inch screen, a 2MP camera, a micro SD card, text and had voice command capabilities. In addition, it was eco friendly because it was made from 80 percent post-consumer plastics and polycarbonate.



Samsung Intensity III QWERTY slider, the way you would put it in your pocket and then in slid open position for easier use of the full keyboard.

We used a very small phillips head screwdrivers and a magnet to take the phone apart. Our goal was to be able to put it back together again so we made a diagram so we could stay organized. Unfortunately, the wire that powers the screen ripped so we had to give up on that goal.

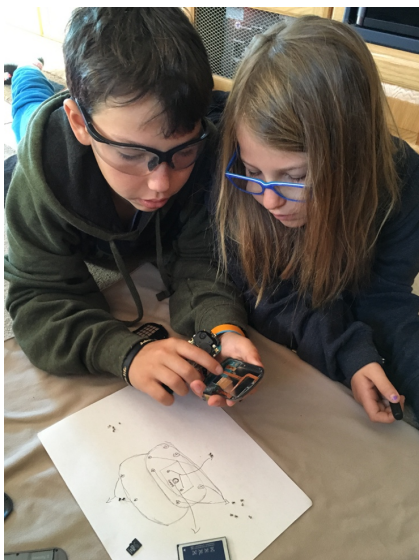


PHOTO:

In this picture we are discussing the connections and the little flips that you open to remove the wires.

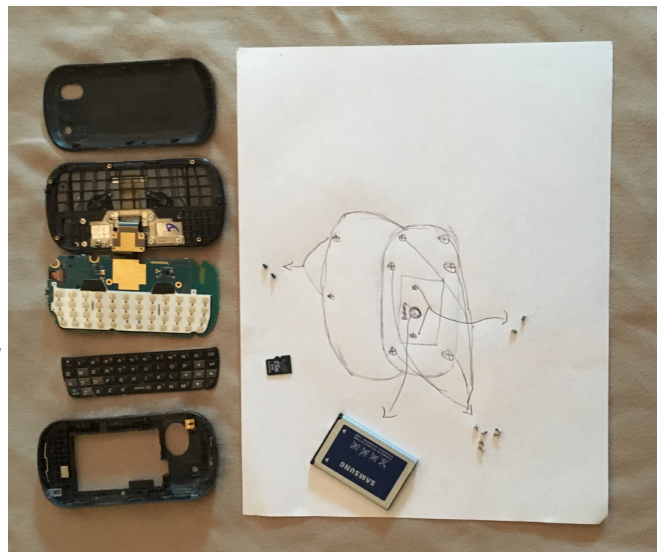
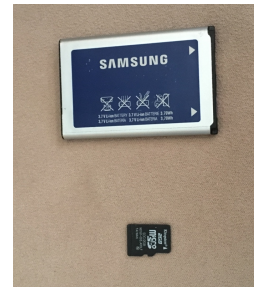


PHOTO:

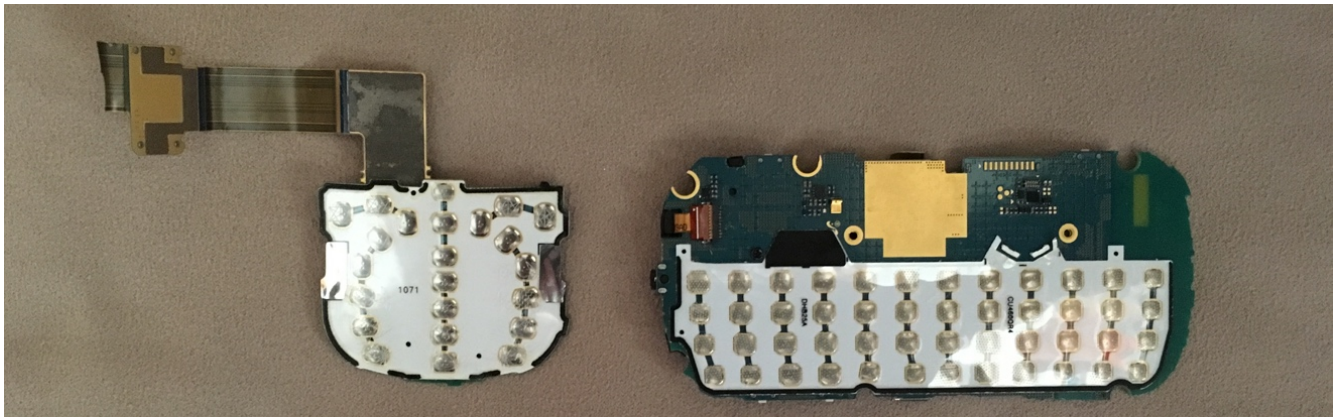
The diagram we made to stay organized when we were thinking we would be able to put it all back together

COMPONENTS

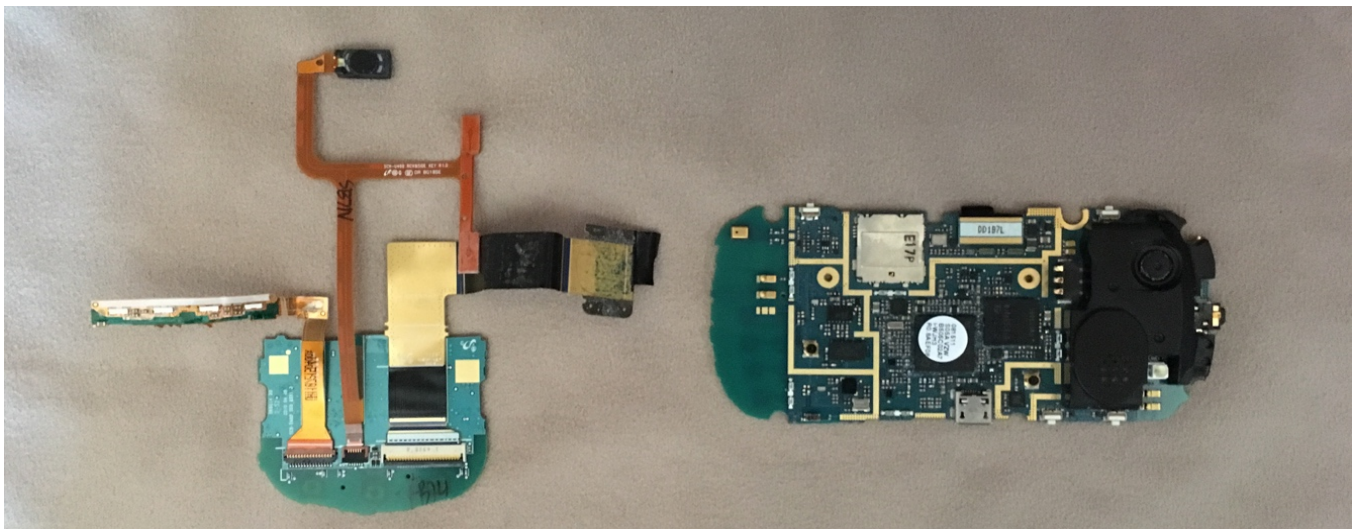
A. The battery looks a lot like a standard Samsung battery as did the SD card. We didn't spend much time exploring them.



B. CIRCUIT BOARDS (two sided)



The main circuit board (right) had 48 buttons for letters, numbers etc. On the other circuit board (left) there were 23 buttons.

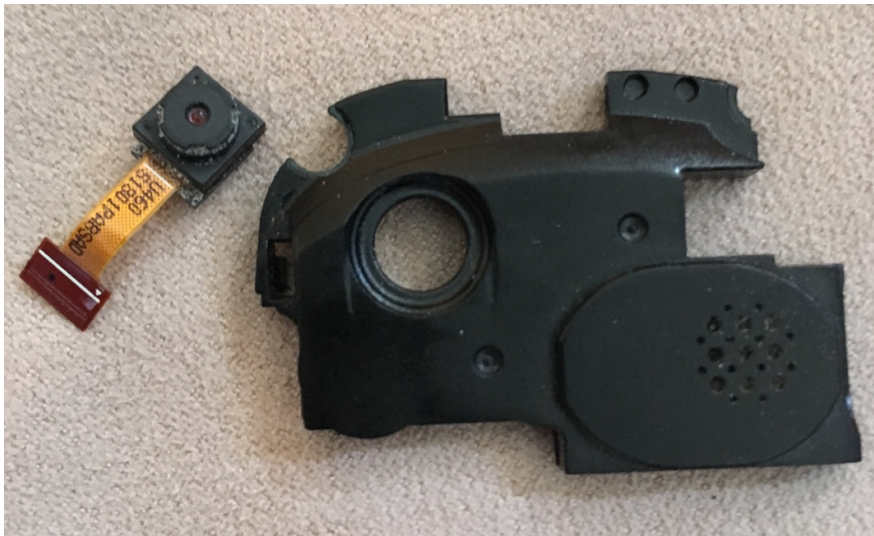


On the other side of the circuitboard we found (right) a micro SD card reader, a micro USB in port, we are pretty sure we found some storage banks, and we also found four small buttons (volume, sleep, home). We also found the inverter. On the other circuit board (left) we found the wire that connected the two boards and that runs the power through the whole phone. This was also where the output wire of the speaker and the volume buttons were as well as the output wire

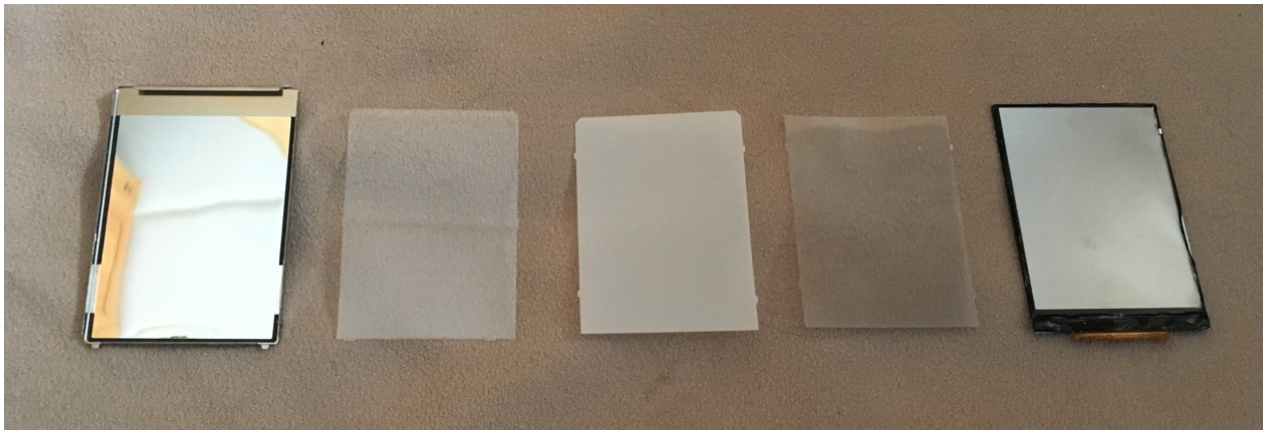
of the screen. We didn't find any TI components. The only name we found on one component was Qualcomm.

C. THE CAMERA

The camera was smaller than one of our fingernails. It has a microphone and connected to the main circuit board.



D. THE SCREEN



The screen is a QVGA screen. It is a version of a LCD screen. This screen is very cool because it tells each pixel individually exactly the color that it needs to produce. Even though there may be two billion pixels. We were very curios when we took the screen apart and were able to find a video

and a diagram on the internet that explained exactly what each piece of the screen did. We were surprised that the L-crystal screen was so thin.

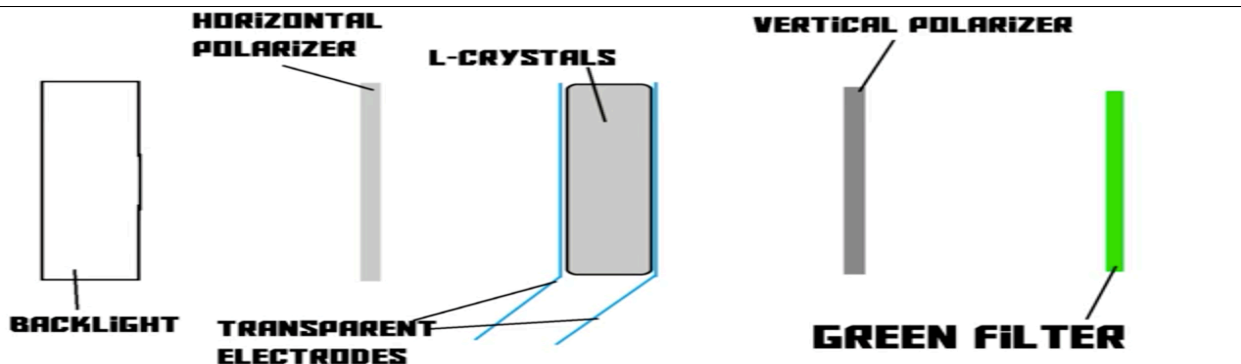


Diagram from <https://youtu.be/VamqtyatBss> explaining what each screen in the QVGA LCD screen does

CONCLUSION

Our biggest take home from this research was the knowledge of how a LCD screen works. We also learned that the power supply transfers throughout the phone to more components than you think.

PARTS LIST OF COMPONENTS

- A. A Samsung 3.7 V Li-ion Battery and a 2G Micro SD card
- B. Two double sided circuit boards.
- C. The Camera
- D. The QVGA Screen