

## **VRC High School - Reverse Engineering Online Challenge**

Names of students who participated:

Vedhika Mathur  
Riona Peeris  
Tannishtha Mondal  
Jessica Yu  
Yuqi Deng

Team number:

10173T

Location of team:

Henrietta Barnett School, Central Square, Hampstead Garden Suburb, London  
NW11 7BN

## INTRODUCTION:

The invention of the laptop was one of the most sensational innovations that has ever occurred and they have become an indispensable part of everyday life. Computers are not only beneficial for quickening the pace of various tasks and communicating through online interactions and additional platforms, but they store and compute data from what we eat in a day to the mathematics for a rocket launch. Our reasoning behind selecting a laptop to disassemble was straightforward. We were perplexed by how a laptop operates and how it's able to perform multiple tasks in a small amount of time. Therefore, we wanted to delve deeper into the assembly and components required. This project would give our team insight on how complex the pieces of technology we use on a daily basis are and how rapidly advancing technology is today; it's constantly evolving for the benefit of the people and so it's essential we understand how they are built and how they work.

## COMPONENTS LIST:

- Laptop screen bezel
- Cameras
- Electronic visual display
- Keyboard
- Palm rest
- Motherboard
- Fan and heatsink
- Speakers
- LED board cover
- Optical drive
- Bottom cover
- Touchpad board
- Hard disk guards (Hard disk had been previously removed)
- Battery
- USB board cables
- LED board



### Motherboard:

A motherboard is one of the most essential parts of a computer system. It holds together many of the crucial components of a computer, including the central processing unit, memory and connectors for input and output devices.



### Electronic visual display:

An electronic visual display is an output device connected to a computer which displays the desired graphics output produced by the graphics processing unit of the computer. Generally known as a monitor, a computer display can be an LCD or LED based.

### Bezel:

A bezel is the border between the screen and frame of a computer monitor. Though it's largely aesthetic, bezels can help protect brittle materials from damage, like chipped edges on the glass of an LCD screen.



### Fan and heatsink:

A heatsink and fan is often used in computers to keep the processor cool. Without it, the processor could overheat and become damaged. Often the normal flow of air is not enough to allow for quick cooling, so a fan has to be added.

### Optical drive:

Optical Drive is a hardware that is used to read and write data through laser beams from the optical disk. One can delete, edit, or retrieve the data from the optical disk by inserting it into the optical drive.



## CONCLUSION:

Seeing each component of the laptop and how they piece together to perform "impossible" tasks was really insightful. Our team has developed a better understanding of how computers function, but it's abundantly clear there is so much more to learn about this device. Overall, taking apart the laptop not only educated us but also made us think about how we can take the process of creating a portable laptop from huge computers and apply it to our own system of developing an efficient robot.

## VIDEO:

[Time lapse of dismantling](#)