



Reverse engineering:

Logitech M310 Mouse

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## **Introduction:**

In the world we live in now compared to the world our parents and superiors lived in much has changed. For this challenge we decided to reverse engineer a mouse (logitech M310) as technology has grown throughout the years.. Mouses are used daily by kids working in computer labs to adults working jobs. We learned the function of each part of a mouse.

## **Reverse Engineering Process:**

### Step 1:

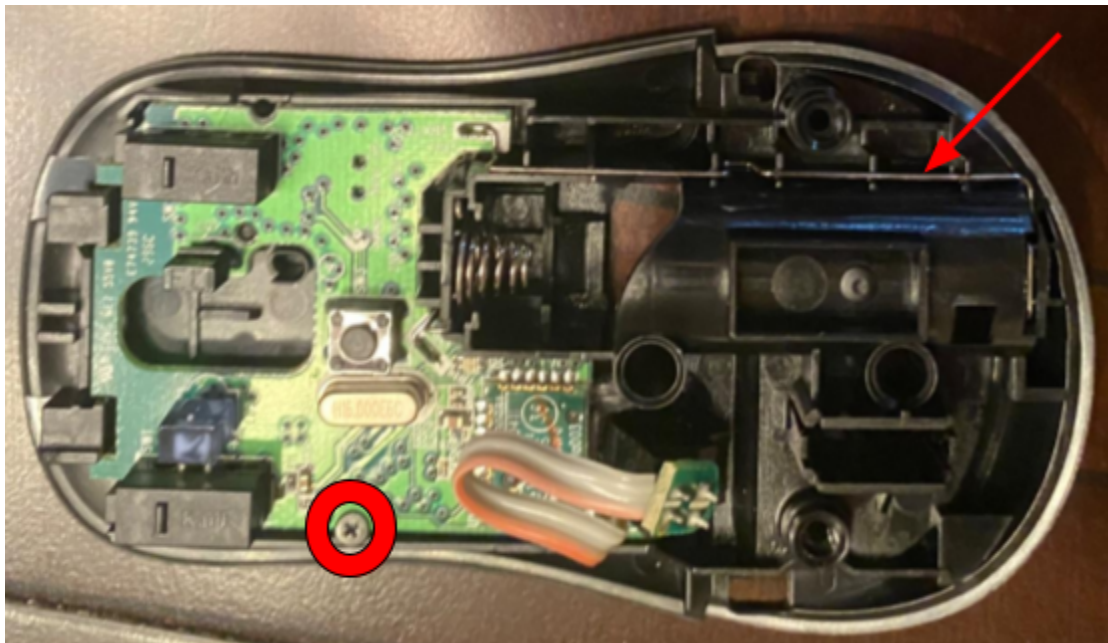
The process of reverse engineering a mouse is fairly simple. Starting off you must unscrew the two screws indicated below.





### Step 2:

Next while you have your screwdriver in hand you should unscrew the screw holding the motherboard in place and clip off the thin wire as identified below and remove the motherboard.





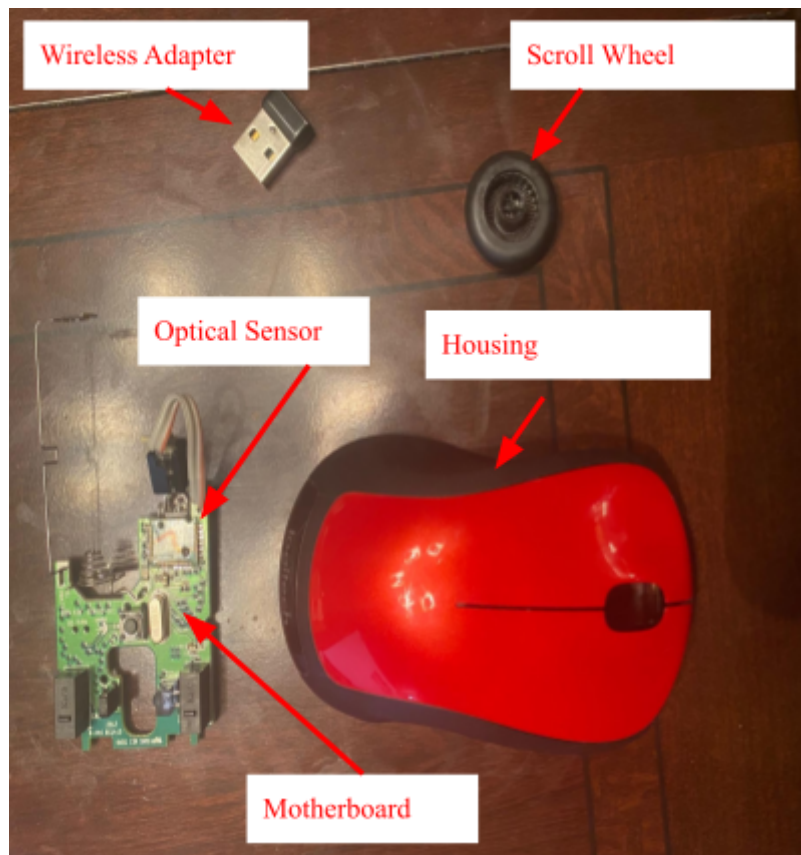
Step 3:

Next with the housing of the mouse pull up on the scroll wheel and push down on the clippers until you hear a click noise.



**Parts:**

1. Housing
2. Motherboard
3. Optical Sensor
4. Scroll Wheel
5. Wireless Adapter







## **Functions for each Part:**

1. Housing - The housing is the outer shell of the mouse, which encloses and protects the internal components. It is usually made of plastic or metal, and may have an ergonomic shape/handle to fit comfortably in the hand. The housing also has a gripped surface to help the user secure hold of the mouse.
2. Motherboard - The Motherboard is the central processing unit(CPU) of the mouse, which controls all of the mouse's function and features. It contains a microprocessor, memory, and other components that allow the mouse to communicate.
3. Optical Sensor - The optical sensor first sends a beam of light to the surface. Then the light reflecting off of the gaps between ridges sends the sensor information on the area that is directly underneath it. The second part Uses the initial and final image from the sensor to an x-y coordinate system where the mouse moves on screen.
4. Scroll Wheel - The scroll wheel may also be used to perform the other functions, which could be an example of zooming and out. The purpose of the scroll wheel is to provide a convenient way for the user to navigate through documents and web pages.
5. Wireless Adapter - For the mouse (logitech M310) used in this challenge it consists of a wireless connection system connecting it with bluetooth connection.

## **Conclusion:**

We were able to take in the knowledge of what goes on in a mouse that we use on a day to day basis. Questions ranging from how it tracks your position to what is the purpose of the housing were all answered throughout this project. In this project we also were able to get a better understanding about sensors and its uses in the world around us and not only on the Spin Up field.