



Reverse Engineering

On a ASUS Laptop

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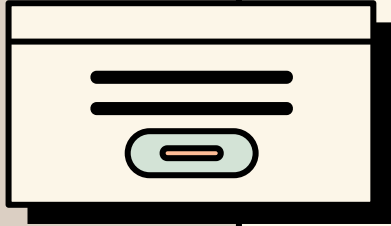
By Ryan and Amogh

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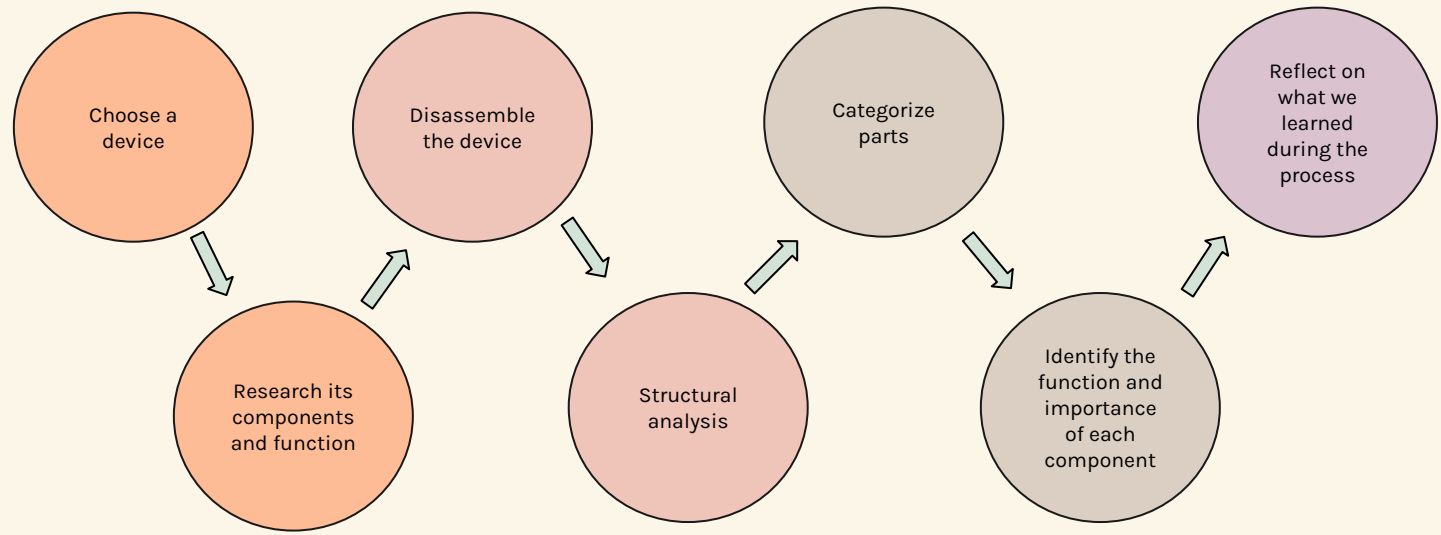
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Introduction

Reverse engineering involves analyzing a system to understand its components and operation. The reason why we selected this Asus laptop for our reverse engineering project is due to its compactness and easiness in breaking and building it back.



Design Process



Device Identification

The device that we chose was an Asus Notebook Model TP200S QCNFA435. The goal was to learn more about how older computers worked compared to a newer computer.

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Component Catalog

The entire Asus computer has several components that make up what this computer is.

- Intel Pentium N3700 Cpu
- Intel HD Graphics Card
- 11.6" 1366 X 768 display size
- 2048 MB of RAM
- 32 GB SSD
- 1200gm / 2.65 pounds
- 11.7/7.9/0.7 inches
- Multi-touch display



KEYBOARD



Each letter has a mechanical switch which triggers a signal to enter the specific key onto the display.



TRACKPAD



This has a sensor to display where the pointer will be using the position of the user's finger.



SCREEN



The ASUS display utilizes a multi-touch, LED-backlit LCD screen.



This computer has a 360 degree hinge allowing it to turn from a computer into a tablet with an 11.6 inch screen. The system used a aluminium display lid and plastic, faux-aluminium interior.

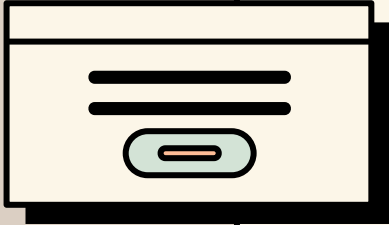


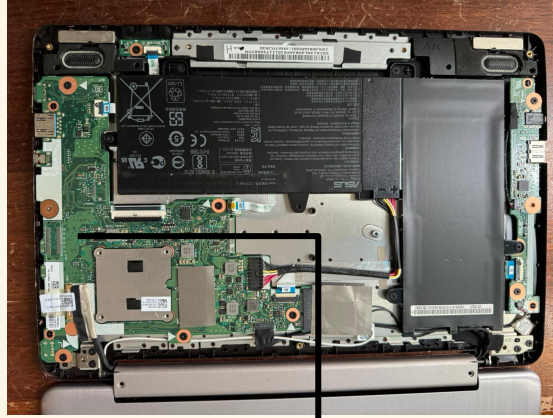
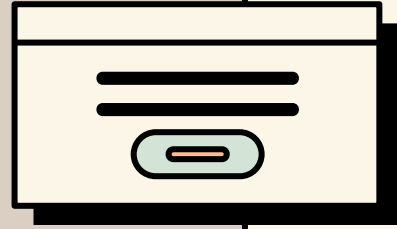
Component Catalog-Internal Components



● **Battery**

is a rechargeable device that supplies power to a laptop computer.





the backbone that
ties the computer's
components together.

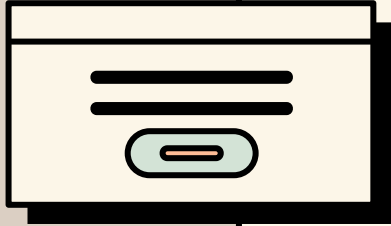
● **Motherboard**

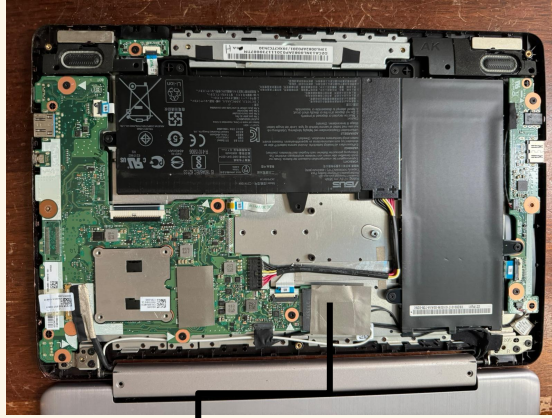




• **Audio Board**

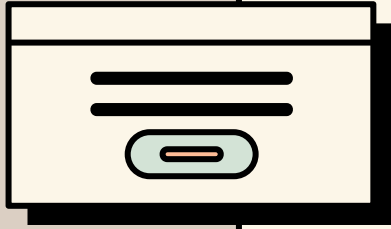
takes multiple sound waves and puts them all on top of each other. The values are taken from these sound waves, and converted and are then played through speakers.





Wifi Card

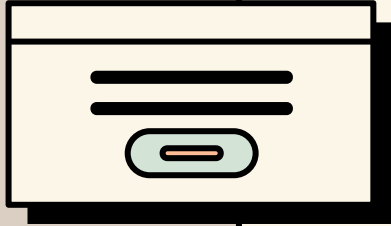
enables the computer to connect to a WiFi. It allows the device to communicate and exchange data with other devices.

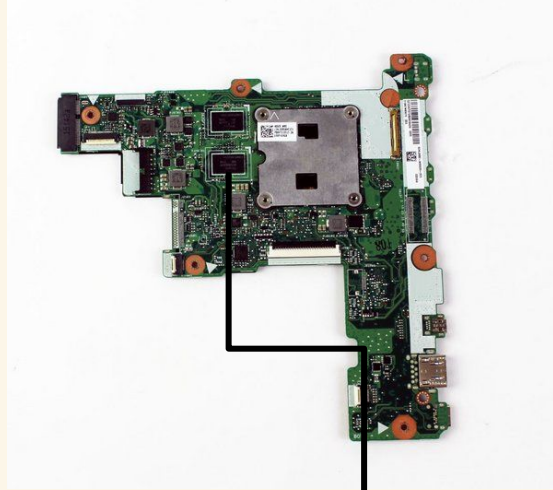
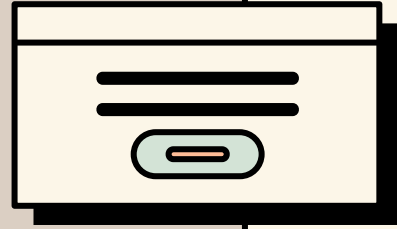




• **CPU**

is the primary component of a computer that performs most of the processing tasks. The CPU executes instructions from the hardware and the software.





RAM

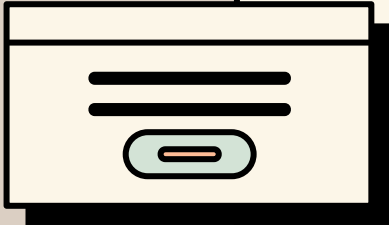


type of computer memory that is used to store data and machine code currently being used and processed by a computer. RAM is a short term main memory.



Conclusion

- It has been an experience learning all the components
- The hands-on experience of disassembling the computer has deepened our team's understand of the device
- Our research skills has grown considerably exploring the specific design and the historical background
- This process has offered us a glimpse of the past of technology
- An important aspect for future trends in robotics



Lessons Learned

We learned...

- How to utilize different strategies of research when identifying electronic components
- How to interpret/utilize information from datasheets for describing functions
- How each component of a computer plays a vital role in its functions

