Reverse Engineering Online Challenge: Nintendo Wii

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Over the years, gaming has evolved into a highly competitive market and its origins date back to the company Nintendo. One of their most successful consoles was the Nintendo Wii which we were interested in taking apart. The most important parts of the Nintendo Wii are the CPU, GPU, RAM, U10, NAND, AVE, Disk Drive, Fan, and Heatsink.

The CPU is short for central processing unit. It is the main driving force behind the system. The GPU is short for the graphics processing unit. This system is paired with the CPU and allows games to run properly.

The RAM is short for random access memory. The RAM stores short-term data that is used on apps regularly so it can be quickly accessed.
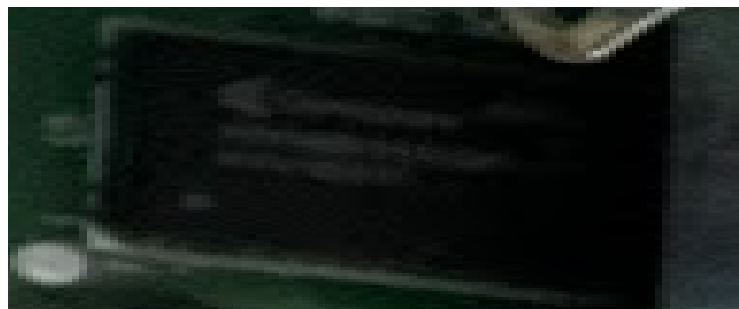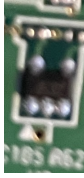
The U10 is a supervisory IC that lets the system know that everything is good to go for bootup.

The disk drive is used to take the disks that are specialized for the Wii. Since the model

that we took apart was the first generation of the system, the disk drive could also read disks from the Nintendo gamecube. With this the Nintendo Wii also needed a space for gamecube controller slots as the Nintendo Wii controllers and the gamecube controllers are not compatible with each other.

The AVE chip converts the raw digital video data from the GPU to a type of standard analog video. For example, the type of standard analog video could be composite or component. Furthermore, the AVE digital audio from the Wii is converted into left and right analog audio.

The fan is what dissipates the heat collected from the heat sink. When taking the system apart, the fan is connected right next to the heat sink's body. Without having this fan, heat would not be able to escape the console causing it to overheat.
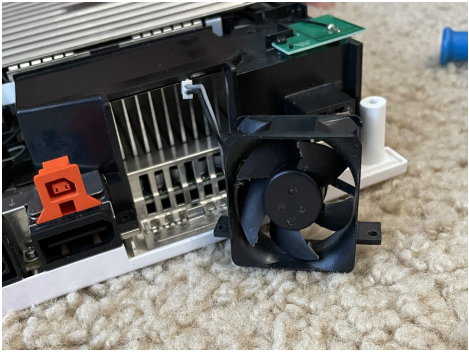
The heat sink is a component of the Nintendo Wii's motherboard. Its purpose is to direct the flow of heat from important components such as the CPU and GPU in order to keep the components cool and prevent overheating.

The NAND is the main storage unit for the Wii. This system allows the console to store the operating system and save data. Due to the importance of these pieces of data this is a required system to boot properly.

I have learned that as time goes on, technology advances. For instance, the technology in this Wii would be considered outdated at this time. The technical specifications of this system would be lacking in comparison to current systems.

After taking apart the Wii, I learned that even though this console didn't have the best hardware at the time of release, the simplicity of components allowed it to be accessible to those tech savvy and gamers alike.

I have learned that technology is very complicated. For example, it's not just putting a shell around a few components that were slapped together. You have to connect things together in a way everything works.

Works Cited

"Wii Motherboard Anatomy 101." *BitBuilt*,
https://bitbuilt.net/forums/index.php?threads%2Fwii-motherboard-anatomy-101.1286%2F