

# Hot and Cold: Analyzing CPU Cooling Methods

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CPU cooling is vital for computers to function efficiently and for long periods of time. The purpose of this project was to measure the effectiveness of various CPU cooling methods, and, ultimately, to see which of these would be best suited for high-intensity applications. Five different Raspberry Pis were used, with each one having a different modification intended to help cool the CPU. Only one deviated from this, having no modifications whatsoever. From here, a student-made, high-intensity program created specifically for this experiment was run on each computer that would output a graph after thirty minutes, as well as a list of CPU temperatures and times. This data was then used to create a graph showing the temperature of each computer's CPU over the course of the thirty minute test. This revealed that the aluminum case was consistently the hottest, while the computer with a fan and heatsink was the coolest.

## **Awards Won:**

University of Texas at Dallas: Back-up scholarship recipients