CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY

Name(s)
Denyven S. Peng

Project Number
S0910

Project Title
The Effect of Overclocking a Computer and the Use of Different Types of RAM on a Computer's Speed and Stability

Abstract

Objectives/Goals
My main goal of this project was to see if Overclocking a computer was a theoretical speed gain, or an actual speed gain. Another piece of information I wanted to find out was if it was worth it t spend extra money on Overclocked "Extreme" RAM.

Methods/Materials
In order to test this, I built my own computer with a CPU that has a reputation for being a "good Overclocker." Once the Computer was completed I overclocked the computer to 5 different levels (1.8gnz, 1.9ghz, 2.0ghz, 2.1ghz and 2.2ghz) at each clockspeed, in order to test my RAM objective, I ran test with both the standard "basic RAM" and the Overclocked "extreme RAM." I ran 10 tests for every configuration. I tested the computer's speed by running a commonly used benchmark, PCmark '05.

Results
What I discovered was that overclocking is indeed an actual speed boost, and that overclocking just a half a Ghz I could raise the PCmark score by 1000 points or 25% of the score that I got when the CPU was not overclocked. On the contrary, I found out that both the "Basic" RAM and "Extreme" RAM both averaged the same score (they were different by about .7 of a score), thus it was not worth to spend money on the higher end "extreme" RAM.

Conclusions/Discussion
I learned from this experiment that overclocking does indeed really make a computer faster, and also that "extreme" RAM is just as fast as the "basic" Standard RAM. Yet, this could only be a result of my computer being semi-incompatible with the faster RAM.
From this experiment, I Also found out there are so many more different things to discover in the field of computer science, with the most important/interesting thing being how to combat heat when making faster and faster computers. That is why I will further experiment with different cooling methods to see how that affects performance and the ability to further overclock a computer.

Summary Statement
Is overclocking a theoretical or actual gain, is it worth the extra money to buy high end RAM

Help Received
Mother edited the Grammar/Spelling of the report