Janet Jackson had the power to crash laptop computers

devblogs.microsoft.com/oldnewthing/20220816-00

Raymond Chen

A colleague of mine shared a story from Windows XP product support. A major computer manufacturer discovered that playing the music video for Janet Jackson's "Rhythm Nation" would crash certain models of laptops. I would not have wanted to be in the laboratory that they must have set up to investigate this problem. Not an artistic judgement.

One discovery during the investigation is that playing the music video also crashed some of their competitors' laptops.

And then they discovered something extremely weird: Playing the music video on one laptop caused a laptop sitting nearby to crash, even though that other laptop wasn't playing the video!

What's going on?

It turns out that the song contained one of the natural resonant frequencies for the model of 5400 rpm laptop hard drives that they and other manufacturers used.

The manufacturer worked around the problem by adding a custom filter in the audio pipeline that detected and removed the offending frequencies during audio playback.

And I'm sure they put a digital version of a "Do not remove" sticker on that audio filter. (Though I'm worried that in the many years since the workaround was added, nobody remembers why it's there. Hopefully, their laptops are not still carrying this audio filter to protect against damage to a model of hard drive they are no longer using.)

And of course, no story about natural resonant frequencies can pass without a reference to the collapse of the Tacoma Narrows Bridge in 1940.[1]

Related: Shouting in the Datacenter.

Bonus chatter: Video version of this story and a Twitter poll.

Also, Larry Osterman had a similar experience with a specific game that crashed a prototype PC.

Follow-up: Janet Jackson had the power to crash laptop computers, follow-up.

[1] **Follow-up 2**: Yes, I know that the Tacoma Narrows Bridge collapse was not the result of resonance, but I felt I had to drop the reference to forestall the "You forgot to mention the Tacoma Narrows Bridge!" comments.

Raymond Chen

Follow