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ECE 435

**Nest Thermostat Glitch**

The Nest Thermostat, a Wi-Fi enabled thermostat, was introduced in 2011. It allows the home owner to control the temperature via their mobile devices without physically having to be home (or if they’re in bed and don’t want to get up, on their way home and want a warm house, etc., etc.). It was recently bought by Google in November of 2016 and has otherwise been successful, until these last few weeks.

Soon into the new year, Nest was receiving hundreds of complaints from home owners stating that their thermostats wouldn’t turn on. After considering the problem, Nest discovered a glitch in their software that was embedded in an update that was sent out late December. In all of the documents I found online, Nest never declares the exact issue with their software, but using my knowledge of software problems, I’d presume there was an issue communicating whether the battery was charged, or, alternatively, the software says the item is charging when, in fact, it is not.

Because of this, families were without heat during the coldest time of the year, and (as of 2017) roughly 5% of the population own a Nest Thermostat: that’s (approximately) 16,338,337 people without heat. While places in the Southwest (such as New Mexico) haven’t had the coldest winter, there are many places that have the concern of burst or frozen pipes further up North. One individual complained that they were out of town at the time, and their thermostat/water heater was dead, so there was no way of saving their water pipes from freezing over. Another complained that they were awakened in the middle of the night by their infant crying and a frigid home with a temperature below 60 degrees. They had set the temperature for 70 degrees before turning in for the night.

This is obviously a huge deal: elderly and infants can be affected drastically without heat during this time of year. Most of all, this situation is incredibly frustrating. With the Internet of Things creating a media and technology based life, the public is starting to rely on their devices like a crutch. We have fridges that can talk to us, programmable light fixtures, and our new and exciting thermostats. Having a bug in the software provided ruins credibility amongst an already weary crowd of people.

Nest could have avoided this problem, or at least lessoned the chance of it occurring, by testing the software repeatedly. It seems like they assumed it was fine: all the other updates had been, so why would this be any different? I’m sure they took basic caution, but with something as serious has heat during the Winter months, they cannot be lazy. It was probably a very small fault in their code – a line misplaced, a semi-colon dropped – something complication the charging communication.

As of January 14th, Nest has confirmed that 99.5% of their customers have regained full function of their thermostat, but have yet to say why it happened, other than a glitch occurring in their software.