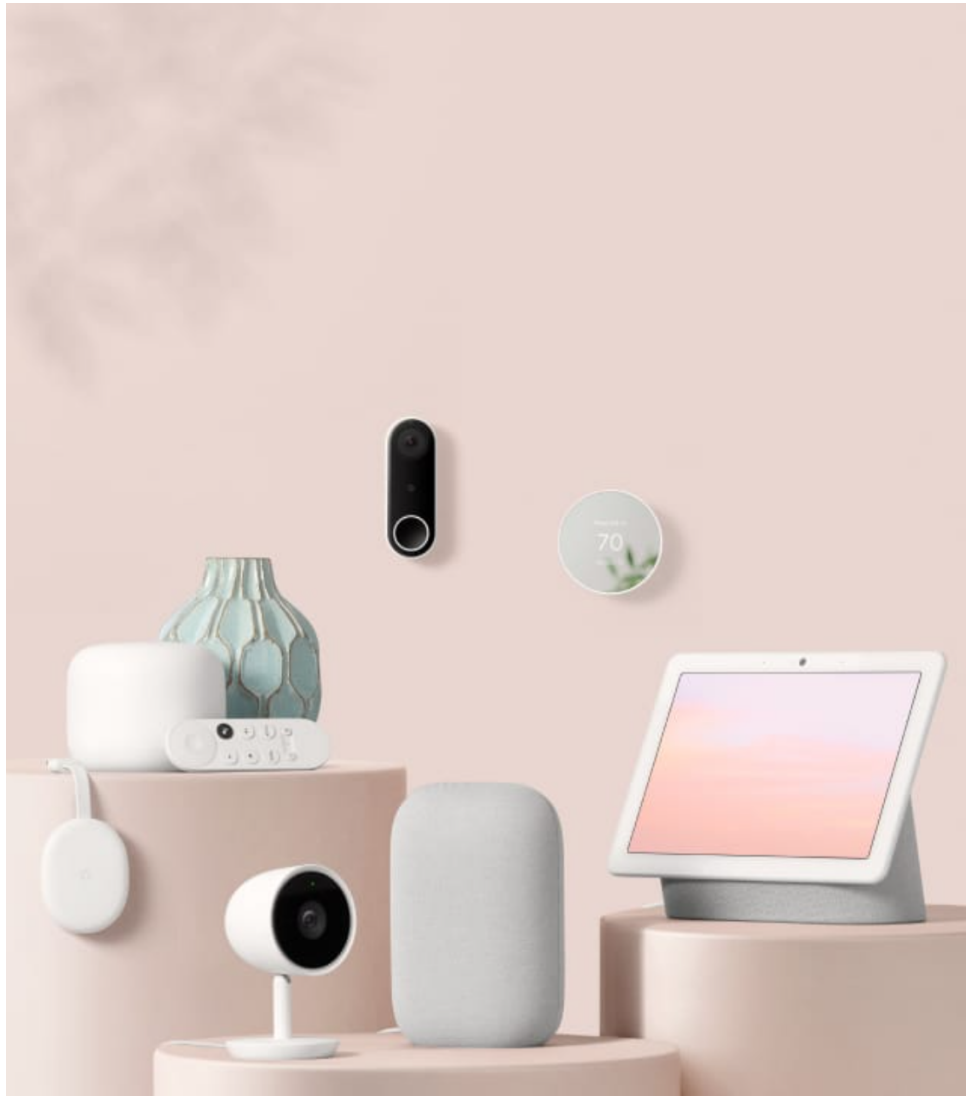


Privacy Concerns: Nest and Google Comes Together

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Nest and Google announced that they come together¹. One of the primary purposes of combination is to protect user's data. If you are a user of Nest and Google Home devices, understanding their policy will help you protect your data. Here, through Solove's Taxonomy, Contextual Integrity, and Differential privacy, we would address potential privacy issues about Next and Google Home devices. Also, I would suggest possible approaches home devices can choose for better privacy protection.



First of all, let's see a high-level summary of what will be changed when Nest and Google are combined.

¹ "Google Nest commitment to privacy in the home - Google Store." https://store.google.com/magazine/google_nest_privacy. Accessed 1 Dec. 2020.

² "Google Nest, build your connected home - Google Store." https://store.google.com/category/connected_home. Accessed 1 Dec. 2020.

What will be changed/ explicitly mentioned about privacy issues?

- Keeps the core security principle as they have done
- **Do not sell** your personal information
- User can have more power to control data (deletion/ wipeout)
- Video footage of the user will only be saved upon the user's explicit request
- Data related to a neighbor will be protected in the more sophisticated way

After recent updates, it will definitely be sure that Google puts more effort about protect user's data, for example, they emphasize that personal information will not be sold to anyone.

Zero Privacy Issues?

Solove's Taxonomy

When examined through Solove's Taxonomy, the information retrieved from various home devices is collected through actual interactions and monitoring, although interactions and record-keeping such as current temperature for temperature control are based on the user's requests. Although data is not publicly available, user's specific information about lifestyle such as sleeping time can be transformed into time-series data. If the dataset were available by request (government), and if the requests can be validated for data processing/control and dissemination violations, then the concerns raised by Solove's Taxonomy would be less severe. From the user's perspective, if Google can emphasize that exposing/selling personal information is also applied to any request even including government, users will be less concerned about it.

Contextual Integrity

Home devices need to monitor various factors such as temperature or potential break-in by thieves. Although it is requested by the user, the user might not be familiar with the context of how all relevant information is accumulated and grouped. Nest camera might record video footage upon the explicit request with sound, however, if it is connected with other data such as temperature or music streamed on that specific time, information connected on this case has lack of contextual integrity since the user would not understand why that information is grouped together. If Google tells us an explicit guideline about grouped information when users install multiple devices, it would be helpful for users to understand what's going on data.

What We Need to Do

Living with home devices is widely accepted now and this industry will grow faster and further. Instead of being ignorant of what those devices are or of which information they collect, it is recommended to read the privacy

policy if updated and take a careful look at specific guidelines devices follow for protecting privacy. Our privacy can be protected by us, this is natural. We should be familiar with what data of ours does.