

Alexa, Who Committed the Double Homicide?:
Concerns and Implications Arising from the Possible Use of Amazon's Echo Device's
Recordings as Evidence in a Murder Case

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Executive Summary

This paper will discuss a double murder case, for which recordings from an Amazon Echo device at the scene of the crime were ordered to be handed over to the police as they may contain evidence of the crime. I will discuss how the recordings from Amazon's Echo devices are no longer simply being used to improve one's everyday interactions with Alexa, but how they are also now being used to provide evidence that could convict someone of a crime. As such, I will argue that Amazon, in its recordkeeping role, needs to better follow the SAA's Code of Ethics and step up to be more transparent with its clients about how these Echo device recordings can be used and by whom.

Introduction

During the holiday season, many people are trying to find the perfect gifts for their loved ones. For many, the seemingly perfect gift may come in the form of an Amazon Echo device, which is a voice-controlled smart speaker which uses “speech recognition to perform an ever-growing range of tasks on command”^{1,2}. These Echo devices are controlled by “Alexa”, which is Amazon's digital voice assistant³. Moreover, “there's no activation button to press. Simply say the trigger word (either ‘Alexa,’ ‘Echo,’ ‘Amazon,’ or ‘Computer’) followed by what you want to happen, and it will usually be done—as long as you've set up everything properly and are using the correct command”⁴. But how does Alexa achieve this complex task? Well, once Alexa

¹ Baguley, Richard, and Colin McDonald. “Appliance Science: Alexa, How Does Alexa Work? The Science of the Amazon Echo - CNET.” CNET.com. Accessed December 17, 2018.

<https://www.cnet.com/news/appliance-science-alexa-how-does-alexa-work-the-science-of-amazons-echo/>.

² Clauser, Grant. “What Is Alexa? What Is Amazon Echo, and Should You Get One?” *Wirecutter: Reviews for the Real World* (blog). Accessed December 17, 2018. <https://thewirecutter.com/reviews/what-is-alexa-what-is-the-amazon-echo-and-should-you-get-one/>.

³ *Ibid.*

⁴ *Ibid.*

recognizes its trigger word (or “wake word”), which is often “Alexa”, it will start recording your voice⁵. Moreover,

When you have finished speaking, it sends this recording over the Internet to Amazon. The service that processes this recording is called Alexa Voice Services (AVS). Run by Amazon, this converts the recording into commands that it interprets. It's more than a simple voice-to-text service: it is a fully programmable service that can work with other online services to do a surprising range of things”⁶.

This range of things spans from playing music to controlling one’s smart home to getting information, news, weather, and more using just one’s voice⁷. But that’s not all Alexa does. As in order “to answer your questions, fulfill your requests, and improve your experience” and Amazon services, Alexa also records all her “Alexa Interactions”⁸. Per Amazon, the term “Alexa Interactions”,

Means all information related to your use of Alexa and Alexa Enabled Products, including your voice and other inputs, responses provided to you through Alexa, information we receive in connection with Third Party Services and Auxiliary Products you use, and information and content you provide or receive through the Alexa App⁹.

Alexa then sends these Alexa Interactions recordings off to Amazon’s servers in the cloud¹⁰. As such, Alexa and Amazon appear to also be in the business of recordkeeping, which is “the

⁵ Baguley, Richard, and Colin McDonald. “Appliance Science: Alexa, How Does Alexa Work? The Science of the Amazon Echo - CNET.” CNET.com. Accessed December 17, 2018.

<https://www.cnet.com/news/appliance-science-alexa-how-does-alexa-work-the-science-of-amazons-echo/>.

⁶ *Ibid.*

⁷ Amazon. “Echo & Alexa - Amazon Devices - Amazon Official Site.” Amazon.com. Accessed December 17, 2018. <https://www.amazon.com/Amazon-Echo-And-Alexa-Devices/b?ie=UTF8&node=9818047011>.

⁸ Amazon. “Amazon.Com Help: Alexa and Alexa Device FAQs.” Amazon.com. Accessed December 17, 2018. <https://www.amazon.com/gp/help/customer/display.html?nodeId=201602230>.

⁹ Amazon. “Amazon.Com Help: Alexa Terms of Use.” Amazon.com. Accessed December 17, 2018. <https://www.amazon.com/gp/help/customer/display.html?nodeId=201809740>.

¹⁰ *Ibid.*

systematic creation, use, maintenance, and disposition of records to meet administrative, programmatic, legal, and financial needs and responsibilities”¹¹. While some consumers may not be aware of Alexa’s recordkeeping capability, police most certainly are, and they have even begun trying to obtain Alexa Interactions recordings from Amazon to help them solve murder cases in which Echo devices were the only potential witnesses at the scene of the crime.

In this paper, I will examine one case in which police have requested that Amazon hand over any recordings of Alexa Interactions that may have been recorded by the Echo device found at the scene of the crime. In doing so, I aim to demonstrate that the recordings of Amazon’s Alexa Interactions go beyond simply being used to improve one’s everyday interactions with Alexa, and that these recordings have the power to potentially provide evidence to convict someone of a crime. Moreover, I will argue that Amazon, in its recordkeeping role, needs to better follow the SAA’s Code of Ethics and step up to be more transparent with its clients about how these Echo device recordings can be used and by whom.

The Case

In Farmington, New Hampshire, Timothy Verrill has been accused of stabbing Christine Sullivan and Jenna Pellegrini to death on January 27, 2017, “over the suspicion that one of them was a police informant”¹². Per ABCNews.com and Slate.com, on January 29, 2017, Sullivan’s boyfriend, Dean Smoronk, returned to his home (which he shared with Sullivan), only to find Sullivan and Pellegrini’s bodies under a tarp in the backyard^{13, 14}. Fortunately, because the home

¹¹ Pearce-Moses, Richard. *A Glossary of Archival and Records Terminology*. Archival Fundamentals Series. Chicago: Society of American Archivists, 2005.

¹² Ferguson, Andrew Guthrie. “Amazon Echo Murder Case: Should Law Enforcement Get Access to Alexa?” Slate.com. Accessed December 17, 2018. <https://slate.com/technology/2018/11/amazon-echo-alexa-murder-case-new-hampshire-warrant.html>.

¹³ *Ibid.*

¹⁴ Osbourne, Mark. “Judge Orders Amazon to Hand over Echo Recordings in Double Murder Case - ABC News.” ABCNews.go.com. Accessed December 17, 2018. <https://abcnews.go.com/US/judge-orders-amazon-hand-echo-recordings-double-murder/story?id=59100572>.

was very high-tech, its built-in digital devices were able to provide investigators with some digital clues¹⁵. Andrew Guthrie Ferguson discusses this more in his article, “Amazon Echo Murder Case: Should Law Enforcement Get Access to Alexa?”, stating,

The high-tech home required a biometric reader for entry. The door was programmed to allow only three people to enter: Smoronk (the homeowner, who was out of town), Sullivan (one of the victims), and Verrill (the suspect). Second, video security cameras caught Verrill entering the house a few hours before the slayings wearing a flannel shirt. Investigators recovered a flannel shirt wrapped around three large knives buried in the yard after the stabbings. The cameras also caught Verrill dismantling the cameras during the hours just beforehand. Finally, video surveillance cameras outside local Lowe’s and Walmart stores showed Verrill purchasing salt and ammonia cleaning products, the residue of which was found inside the house (apparently in an effort to clean up the bloody scene). These clues and others offer a compelling circumstantial case that Verrill was present at the house during the time of the killings, with the women, and likely tried to clean up the incriminating evidence. But the evidence doesn’t tell us what happened during those fateful hours.¹⁶

Thus, the evidence discovered by these digital recording devices (including the biometric reader for entry, the video security cameras at the house, and the security cameras at the Lowe’s and Walmart stores) are extremely helpful to the investigators, but they don’t provide evidence of what actually happened at the crime scene. But there is one more device that could have potentially witnessed what happened, and that device is the Amazon Echo. Ferguson goes on,

¹⁵ Ferguson, Andrew Guthrie. “Amazon Echo Murder Case: Should Law Enforcement Get Access to Alexa?” Slate.com. Accessed December 17, 2018. <https://slate.com/technology/2018/11/amazon-echo-alexa-murder-case-new-hampshire-warrant.html>.

¹⁶ *Ibid.*

Enter the Amazon Echo and the hope that the government would be able to turn Alexa into a prosecution witness...For police detectives who know a homicide has occurred in the general proximity to a smart device, the recordings offer a potential gold-mine of clues. ‘Alexa, how do I bury a body?’ would be a solid piece of incriminating evidence after a killing¹⁷.

As Ferguson states, if Alexa has recordings of the murderer asking Alexa how to bury a body or even recordings of the murderer just talking, this could be a big piece of evidence for the police. In order to get access to the recordings to see if they actually contain anything helpful, the police had to make a case that probable cause evidence would exist in the Amazon Echo recordings¹⁸. Apparently, they were able to make a strong case as Strafford County Superior Court Justice Steven M. Houran ruled that,

The court finds there is probable cause to believe the server(s) and/or records maintained for or by Amazon.com contain recordings made by the Echo smart speaker from the period of Jan. 27 to Jan. 29, 2017 ... and that such information contains evidence of crimes committed against Ms. Sullivan, including the attack and possible removal of the body from the kitchen.^{19,20}

While this may have been a big win for police as they could potentially find the evidence in these recordings to reveal what happened at the crime scene, Amazon isn’t planning to hand over the

¹⁷Ferguson, Andrew Guthrie. “Amazon Echo Murder Case: Should Law Enforcement Get Access to Alexa?” Slate.com. Accessed December 17, 2018. <https://slate.com/technology/2018/11/amazon-echo-alexa-murder-case-new-hampshire-warrant.html>.

¹⁸ *Ibid.*

¹⁹ Andersen, Travis. “N.H. Judge Orders Amazon to Provide Echo Recordings in Double Murder Case - The Boston Globe.” Accessed December 17, 2018. <https://www.bostonglobe.com/metro/2018/11/13/judge-orders-amazon-provide-echo-smart-speaker-recordings-chilling-double-murder-case/WBzq9nx0ivSwJ8UttQaJI/story.html>.

²⁰ Ferguson, Andrew Guthrie. “Amazon Echo Murder Case: Should Law Enforcement Get Access to Alexa?” Slate.com. Accessed December 17, 2018. <https://slate.com/technology/2018/11/amazon-echo-alexa-murder-case-new-hampshire-warrant.html>.

recordings that easily, as Amazon has stated that it “will not release customer information without a valid and binding legal demand properly served on us. . . . Amazon objects to overbroad or otherwise inappropriate demands as a matter of course”²¹. While at this time, Amazon is not planning to hand over its recordings until forced to, the fact that a judge has ordered Amazon to do so, will still likely be cause for concern for many Echo device owners.

Moreover, one of the biggest revelations that this case has likely brought up to Echo device owners is that Alexa is constantly listening for its wake word and that it is keeping records of all its Alexa Interactions. Since these Alexa Interactions recordings are essentially invisible to the consumers’ eye (unless you know where to look for them to review them or delete them on the Alexa app), before this case many people probably didn’t even realize these recordings existed, and furthermore, that they are stored on the Amazon cloud server.²² The fact that these Echo devices, which are marketed as being able to help perform simple tasks for people, could be used against someone in the court of law is probably not what consumers expected when they decided to bring these Echo devices into the comfort and privacy of their own homes. But as times have changed and the use of Amazon’s Alexa Interactions recordings have changed, it seems necessary for Amazon to practice recordkeeping ethics by updating its marketing and its policies to be more transparent with its customers about what these recordings can be used for and by whom.

The Need for Amazon to Take On More Ethical Recordkeeping Practices

As Amazon has essentially taken on the role of an archival institution through its record creation and record storage of the Amazon Alexa Interactions recordings created by the Echo

²¹ Ferguson, Andrew Guthrie. “Amazon Echo Murder Case: Should Law Enforcement Get Access to Alexa?” Slate.com. Accessed December 17, 2018. <https://slate.com/technology/2018/11/amazon-echo-alexa-murder-case-new-hampshire-warrant.html>.

²² Amazon. “Amazon.Com Help: Alexa Terms of Use.” Amazon.com. Accessed December 17, 2018. <https://www.amazon.com/gp/help/customer/display.html?nodeId=201809740>.

devices, Amazon should be held to the Society of American Archivists' (SAA's) Code of Ethics²³. Per Professor Gilliland's "Lecture 1" from the Information Studies 431 course in Fall 2018, an archive can be defined as "non-current but still useful organizational records created or received by a person, family, or organization, public or private, in the conduct of their affairs and preserved because of the enduring value contained in the information they contain or as evidence of the functions and responsibilities of their creator".²⁴ (Furthermore, if one wanted to get really specific, one might even argue that Amazon is in fact a media archive, which are "physical/digital repositories of film, sound, animation, photograph, VR, social media, etc.", as the files it stores are digital recordings²⁵). But regardless, following this definition of an archive, Amazon can be seen as an archival institution that participates in a recordkeeping process, in which Alexa creates records in the form of Alexa Interactions recordings, which are then sent to and stored upon an Amazon cloud server that is maintained by Amazon.

Now that we have established that Amazon could be considered an archival institution, let's discuss a few principles in SAA's Code of Ethics and examine if Amazon appears to follow suit with these ethical principles²⁶. First, regarding professional relationships, SAA's Code of Ethics states that "in their professional relationships with donors, records creators, users, and colleagues, archivists are honest, fair, collegial, and equitable"²⁷. Furthermore, regarding the principle of "Access and Use", SAA states,

²³ Society of American Archivists (SAA). "SAA Core Values Statement and Code of Ethics | Society of American Archivists." Accessed December 17, 2018. <https://www2.archivists.org/statements/saa-core-values-statement-and-code-of-ethics>.

²⁴ Gilliland, Anne. "Lecture 1", Lecture, Information Studies 431, UCLA, Los Angeles, CA, September 28, 2018.

²⁵ *Ibid.*

²⁶ Society of American Archivists (SAA). "SAA Core Values Statement and Code of Ethics | Society of American Archivists." Accessed December 17, 2018. <https://www2.archivists.org/statements/saa-core-values-statement-and-code-of-ethics>.

²⁷ *Ibid.*

Recognizing that use is the fundamental reason for keeping archives, archivists actively promote open and equitable access to the records in their care within the context of their institutions' missions and their intended user groups. They minimize restrictions and maximize ease of access. They facilitate the continuing accessibility and intelligibility of archival materials in all formats. Archivists formulate and disseminate institutional access policies along with strategies that encourage responsible use. They work with donors and originating agencies to ensure that any restrictions are appropriate, well-documented, and equitably enforced. When repositories require restrictions to protect confidential and proprietary information, such restrictions should be implemented in an impartial manner. In all questions of access, archivists seek practical solutions that balance competing principles and interests.²⁸

Amazon does appear to follow these principles in the sense that Amazon posts information on its website about how it keeps records of the Alexa Interactions and why it does so, which is to supposedly improve and personalize the Echo device users' Alexa and Amazon experiences²⁹. Moreover, by providing the users (who could be considered the originating agencies of the records as the users are the ones interacting with Alexa to create the records) with the ability to review and delete the files, Amazon provides the users with the opportunity to decide which files are stored in the Amazon archive and which are not³⁰. While Amazon does provide information about the recordings and how to access and delete them online, one has to go looking for this information which doesn't seem very transparent on Amazon's part. Furthermore, because the

²⁸ Society of American Archivists (SAA). "SAA Core Values Statement and Code of Ethics | Society of American Archivists." Accessed December 17, 2018. <https://www2.archivists.org/statements/saa-core-values-statement-and-code-of-ethics>.

²⁹ Amazon. "Amazon.Com Help: Alexa and Alexa Device FAQs." Amazon.com. Accessed December 17, 2018. <https://www.amazon.com/gp/help/customer/display.html?nodeId=201602230>.

³⁰ *Ibid.*

actual digital recordings are essentially invisible to the eye, many people may not know the recordings exist or they may easily forget about them.

Additionally, Amazon doesn't make it very clear or easy to figure out who has access to these recordings. If one attempts to look on Amazon's "Alexa and Alexa Device FAQs" webpage to find out who has access to these files, the language is tricky to understand and Amazon often refers you to another page of Terms and Conditions to find out more information³¹. So, unless you understand business and legal jargon, you likely won't be able to completely understand who actually has access to these recordings or you likely won't understand the fact that your records could potentially be taken into evidence for a crime, such as in the case of the double homicide mentioned earlier. Thus, if Amazon wants to follow SAA's Code of Ethics better, one action it could take is to make the language on their website regarding the access and use of these recordings more understandable, and Amazon could also make it clearer that there is a possibility that these recordings could be used as evidence in the court of law.

The next principle I'd like to discuss in SAA's Code of Ethics is that of privacy³². On this topic of privacy, SAA states,

Archivists recognize that privacy is sanctioned by law. They establish procedures and policies to protect the interests of the donors, individuals, groups, and institutions whose public and private lives and activities are recorded in their holdings. As appropriate, archivists place access restrictions on collections to ensure that privacy and confidentiality are maintained, particularly for individuals and groups who have no voice

³¹ Amazon. "Amazon.Com Help: Alexa and Alexa Device FAQs." Amazon.com. Accessed December 17, 2018. <https://www.amazon.com/gp/help/customer/display.html?nodeId=201602230>.

³² Society of American Archivists (SAA). "SAA Core Values Statement and Code of Ethics | Society of American Archivists." Accessed December 17, 2018. <https://www2.archivists.org/statements/saa-core-values-statement-and-code-of-ethics>.

or role in collections' creation, retention, or public use. Archivists promote the respectful use of culturally sensitive materials in their care by encouraging researchers to consult with communities of origin, recognizing that privacy has both legal and cultural dimensions. Archivists respect all users' rights to privacy by maintaining the confidentiality of their research and protecting any personal information collected about the users in accordance with their institutions' policies³³.

Thus, per SAA's privacy principle, Amazon should not only be establishing procedures and policies to protect the users of the Echo devices but they should also be putting restrictions on access to the recordings as is appropriate.

In this regard, Amazon's Echo devices, which use Alexa to create the records, do appear to respect the users' privacy as Alexa is only supposed to wake up and begin recording when its wake word is said. However, there have been many cases where Alexa has spontaneously spoken, screamed in the night, or even laughed creepily and begun recording with no provocation or announcement of the Echo device's wake word³⁴. In these examples, Alexa's weird behavior can likely be explained by the idea that "given how sensitive Alexa has to be to process wake words, sometimes Alexa will react to a sound (even one we might not hear or notice) and interpret that as a wake word" even if it is not actually the wake word.³⁵ But regardless, this means that Alexa may be recording people's conversations without the Echo device owner's consent or knowledge, which then means that there may be recordings on Amazon servers that people don't even realize exist. This definitely does not seem ethical. And

³³ Society of American Archivists (SAA). "SAA Core Values Statement and Code of Ethics | Society of American Archivists." Accessed December 17, 2018. <https://www2.archivists.org/statements/saa-core-values-statement-and-code-of-ethics>.

³⁴ Gewirtz, David. "Has Alexa Snapped? Why Your Echo Sometimes Does Creepy Things." ZDNet. Accessed December 17, 2018. <https://www.zdnet.com/article/has-alexa-snapped-why-alexa-sometimes-laugh-or-does-other-creepy-things/>.

³⁵ *Ibid.*

while people can review and delete their recordings to maintain their privacy, Amazon's language on the website seems to discourage that people delete the recordings, as it states, "Deleting voice recordings may degrade your Alexa experience"³⁶. Thus, people may believe deleting the recordings would be detrimental to using their Echo devices, and as such, they may choose not to delete recordings against their better judgment.

But on the topic of privacy, Amazon has also shown their allegiance in trying to protect the privacy of the Echo device users by trying to keep their recordings out of the hands of the police. This can be seen in the double homicide case in Farmington, New Hampshire mentioned earlier, as Amazon is not planning to hand over any recordings until they are legally forced too. Additionally, another example of Amazon putting their foot down when asked to hand over Echo device recordings was in an Arkansas murder case, in which James Bates, was "charged with first-degree murder in the 2015 death of Victor Collins after a night of drinking and watching football. Collins was found floating face-down in Bates' hot tub, police said".³⁷ The prosecutors in this case wanted access to the recordings on an Amazon Echo that was present on the evening of Collins' death³⁸. But when asked for the recordings, Amazon "initially rebuffed the prosecution's request but later provided the data after Bates said he would voluntarily hand over the recordings", which actually helped clear Bates of the charges as there was not enough evidence to convict him³⁹. In this instance, the Echo device's recordings may have helped Bates⁴⁰. And even though Bates gave permission for Amazon to hand over the files, Amazon did try to protect and keep private the recordings from Bates' Echo device. Though some might

³⁶ Amazon. "Amazon.Com Help: Alexa and Alexa Device FAQs." Amazon.com. Accessed December 17, 2018. <https://www.amazon.com/gp/help/customer/display.html?nodeId=201602230>.

³⁷ Chavez, Nicole. "Murder Charge Dropped in Amazon Echo Case - CNN." CNN.com. Accessed December 17, 2018. <https://www.cnn.com/2017/11/30/us/amazon-echo-arkansas-murder-case-dismissed/index.html>.

³⁸ *Ibid.*

³⁹ *Ibid.*

⁴⁰ *Ibid.*

argue that in this situation Amazon was let off the hook and not required to produce the recordings against Bates' will (which could be a different story in the double homicide case in New Hampshire). Thus, one might argue that Amazon can only keep the recordings private to a certain extent, and that Amazon is not above the law. For many people, this may come as a shock that these recordings which they may have thought were forever private, may not be and that Amazon may not be able to do anything about it in certain cases. Moreover, Amazon's lack of informing Echo device users about the possibility that their recordings could be used against them in the court of law, may be seen by many as a lack of transparency on Amazon's part. As such, in following with SAA's Code of Ethics, Amazon should make it clearer that they can only keep these files private to a certain extent.

Moving on, let's discuss another principle in the SAA Code of Ethics that is closely related to privacy. The principle I speak of is the principle of "trust", upon which SAA states, Archivists should not take unfair advantage of their privileged access to and control of historical records and documentary materials. They execute their work knowing that they must ensure proper custody for the documents and records entrusted to them. Archivists should demonstrate professional integrity and avoid potential conflicts of interest. They strive to balance the sometimes-competing interests of all stakeholders⁴¹.

Thus, like archivists, Amazon should ensure proper custody of the documents and records entrusted to them. This is especially important, as we now know that these files could potentially be used in the court of law. While Amazon doesn't appear to provide much, if any, information about how they store the Alexa Interactions recordings on the Amazon cloud servers or what type of description or metadata they keep on these files, it is very important that Amazon creates

⁴¹ Society of American Archivists (SAA). "SAA Core Values Statement and Code of Ethics | Society of American Archivists." Accessed December 17, 2018. <https://www2.archivists.org/statements/saa-core-values-statement-and-code-of-ethics>.

and keeps this information with the records at all times. In his article, “Trust and context in cyberspace”, Geoffrey Yeo discusses the principle of provenance, saying, “the principle of provenance requires records and archives to be managed in a way that secures and preserves knowledge of their origins and the circumstances of their creation”.⁴² Thus, the provenance and its equally important counterpart, which is the context, of any Alexa Interactions recordings could provide more insight into the recordings, especially in regards to why the recordings were created and in what kind of situation. Yeo continues on saying that, “where records are concerned, documentation of provenance and context forms a basis for enhancing their transparency and thus for evaluating their trustworthiness”, especially in the “digital environments where resources can be reused and remixed at will”.⁴³ Only in supplying context and provenance can these Alexa Interactions recordings be considered trustworthy. Take for example a recorded Alexa Interaction, in which someone asks Alexa, “Alexa, where can I get a bat?”. Alexa may provide an answer of where to buy a baseball bat. But really the Echo device owner meant where does one get a mammal version of a bat. So, the Echo device owner may ask the question again specifying that they are looking for a mammal bat. While this is a simple misunderstanding by Alexa, if someone took the first part of the conversation out of context, they might consider that this person wanted a baseball bat (which if someone was on trial for a murder where a person was beaten to death with a baseball bat, then this could be a piece of evidence that the prosecution might use against the person). While this may not be the greatest example, it demonstrates the importance of why Amazon should be making sure that any recordings they have are kept in context and with provenance of the recordings. This way, if anyone (be it police or someone else) were to ask for recordings of Alexa Interactions, then this

⁴² Geoffrey Yeo (2013) Trust and context in cyberspace, *Archives and Records*, 34:2, 214-234, DOI: 10.1080/23257962.2013.825207.

⁴³ *Ibid.*

person would have a more complete understanding of the situation in which the Alexa Interactions were recorded. Additionally, another reason why it is so important for Amazon to provide context and provenance for any recordings is in the event of recordings being deleted. For example, if people delete some of their Alexa Interactions recordings this could alter how other recordings that were not deleted might appear. Thus, it is extremely important for Amazon to follow SAA's Code of Ethics and give their customers reason to trust them in their recordkeeping practices, which they can do by providing detailed records of the provenance and context of the Alexa recordings themselves. So, if in the event that these recordings were to ever be used in the court of law, then people could better understand the bigger picture of what was happening when the recordings were being created.

Conclusion

The use of the recordings created by the Amazon Echo devices have changed over time. While Amazon still uses these recordings to make customers' use of the Echo devices more personalized, Amazon is no longer the only one wanting access to these recordings. As the double homicide case in New Hampshire has shown, police now see the potential evidentiary value in these Echo devices' recordings, and as such, want access to these recordings as well. Furthermore, the murder cases in New Hampshire and Arkansas that were discussed earlier, have demonstrated that the police are potentially able to get access to these recordings. As such, owners of Echo devices may finally be realizing that not only are their interactions with Alexa being recorded and stored on a cloud, but also that these recordings could be released to law officials.

Furthermore, these homicide cases in New Hampshire and Arkansas have exposed Amazon as an archival institution that stores these Echo devices' recordings. Thus, it seems appropriate that Amazon should be held to the same SAA Code of Ethics as other archives,

especially in relation to the principles of use and access, privacy, and trust. Though Amazon has taken steps to try to protect the privacy of the Echo device users and limit access to the Alexa Interactions recordings, it doesn't appear to be enough, especially now that recordings can potentially be used in the court of law. While I don't have all the answers as to what Amazon can do that would be deemed "enough" in regards to applying the SAA Code of the Ethics to Amazon's work with its Echo devices' recordings, I would like to think that some good first steps that Amazon could take would include being more transparent with customers about who can access the recordings and how the recordings can be used, as well as making sure to create files accompanying the recordings that note the recordings' context and provenance.

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