Assignment #2
Info 205
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The following report provides guidance to Elemental Path's CogniToys Dino product team in designing a production-version of the CogniToys Dino (the Dino) to ensure compliance with the Children's Online Privacy Protection Act (COPPA). The FTC's Bureau of Consumer Protection, Division of Privacy and Identity Protection, has expressed concerns with the Dino's compliance. As a precautionary measure, it is assumed that the connectivity of the Dino classifies the product as an online service, deeming it within the scope of COPPA.

This report outlines three plausible use-case scenarios; two that could potentially jeopardize the Dino's compliance with COPPA (specifically Sections 312.3 (b) and (c) and Section 312.4 (b)) and one that does not violate COPPA, but does not respect concepts of privacy making Elemental Path susceptible to consumer complaints.

The first use-case scenario involves two children playing with the Dino where the parent of one child (the owner of the Dino) has provided parental consent, but the parent of the second child has not.

The Dino, as showcased in the promotional Kickstarter video [1], may be used in social settings where multiple children are interacting with a single Dino. Aligned with this vision is ToyTalk's Hello Barbie which aims to be a "means to foster [human interaction], since children often use the toys with peers" [2] and Cynthia Breazeal's, Director of the MIT Media Lab's Personal Robots Group, 'social robot' specifically designed to encourage social activity [2]. A fear of intelligent toys is the all consuming nature, prohibiting children from developing social skills

outside of the toy. To remain competitive, the Dino would need to maintain the encouragement of interactions between children. Although, such social situations could lead to unintended violations of COPPA; consider the following scenario:

> *Scenario A*
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> Jack, who owns a Dino, invites Jill over for a play date. Jack brings his Dino along. Jack and Jill are both under 13 years old. Jack's parents have provided consent for Jack's usage of the Dino, in compliance with COPPA. But, Jill's parents have never seen the toy before and are not aware that such a parental consent is required for children to use the toy. As Jack and Jill begin playing with the Dino, Jill reveals her name along with her address.

In Scenario A, the Dino records audio and video of both Jack and Jill to intelligently interact with the children. These recordings could potentially collect personally identifiable information. Collecting such information on Jack does not violate COPPA, as his parents have provided consent. But, such a recording of Jill's information would violate COPPA, specifically Section 312.3 (b), as her parents have not provided parental consent for Elemental Path's collection and use of her personal information disclosed through conversation (e.g. name and city she lives). Additionally, COPPA Section 312.3 (c) was violated as Elemental Path did not provide reasonable means for Jill's parents to review the personal information collected about her.

Given this scenario violates COPPA under section 312.3 (b) and (c), I highly recommend the product team puts in measures to prevent the collection of personal information (as defined under COPPA to include (a) a first and last name; (b) physical address with street name and name of city; (c) e-mail address or other online contact; (d) telephone number; (e) social security

number)[1] [3]. A proposed design change would be to transcribe the audio recordings locally on the Dino and replace all text potentially classified as personal information with a dummy placeholder (both in the text and in the audio recording) prior to being transmitted via wifi to Elemental Path's servers. This information is not pertinent to the implementation of the artificial intelligence algorithms Elemental Path runs in order to provide the service. A children's name, a personally identifiable piece of information may make for a more authentic interaction between the Dino and the child could still be preserved by locally storing the name on the Dino and populating name placeholders in the output communication. The same process could be done with image recognition of video recordings and photographs, such that text and/or numbers in images could be redacted locally prior to transmitting the messages back to Elemental Path.

This process is consistent with, yet more advanced than, ToyTalk's practice where "if [they] notice a child has disclosed identifying details (like an address), the company deletes the recordings" [2].

From a privacy perspective, this design is optimal, but from a business perspective, it is likely not. I suspect costs would increase for the hardware in the Dino necessary to implement such translations, image recognition, and redaction procedures locally. Despite the costs, this precaution is vital to protect Elemental Path from COPPA violation considering the high likelihood of such a use case.

I note here that a less costly approach (albeit less robust), would be to limit the usage of the Dino to a pre-specified Wi-Fi network as determined by the parent upon parental consent. Although,

[1] Note, the definition of personal information under COPPA also includes a persistent identifier, such as a customer number. This is not relevant to the information that would be collected on Jill, as she is not the owner of the Dino for which such a number would be tied to.

this only eliminates issues with the reverse of Scenario A where Jack takes his Dino over to Jill's house where it would no longer function, but not eliminate the situation in Scenario A where Jill comes over to Jack's house. Furthermore, such a Wi-Fi constraint would greatly diminish the value of the product.

The second use case scenario involves a child who was able to create the account required to operate the Dino without a parent's assistance, such that the parents were unaware of the personal information collected and used by Elemental Path.

> *Scenario B*
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> Freddy, a 12 year old, gets a Dino. As he un-packages the Dino, he realizes an account needs to be created prior to usage. Given Freddy is technologically savvy and his parent's e-mail is fully accessible to him on the home computer, Freddy proceeds to create the user account. He doesn't do so maliciously or directly against his parent's will, but just figured it would be faster for him to go through the technicalities without his parent's help, as he has done freely for other online games and applications.

As a result of Scenario B, Freddy's parents are unaware of the personal information that the Dino may collect about their child through the recording functionality. Elemental Path cannot fully prevent children from providing inauthentic parental consent, especially with children mature enough to circumvent such measures, but Elemental Path could put a notification of it's recording functionality and the source for it's complete privacy policy directly on the physical Dino.

A lack of a notification of a link to Elemental Path's Children's Privacy Policy on the physical Dino is actually in direct violation of COPPA Section 312.4 (b) which requires the placement of such a link to be placed at "each area on the website or online service where personal information is collected from children". Such links exist on all areas of both the application and the website, in compliance with COPPA, but does not currently exist on the Dino itself, which under the assumption here that the Dino is classified as an online service.

I would recommend that direct notification of the potential collection and usage of children's personal information through audio and video recordings should be clearly and visibly stated on the physical Dino itself, in addition to simply a link to Elemental Path's Children's Privacy Policy. Such a notice would help strengthen the Dino's compliance under COPPA Section 312.4 (c), which requires companies to make reasonable efforts ensure the parent of a child receives notice of the collection and usage actions taken by Elemental Path. Additionally, such a notice would further prevent unwanted lawsuits resulting from Scenario A where two children, one with parental consent and one without, are playing with the Dino, because the uninformed parent of the child without consent is more likely to see the notice on the physical toy.

The third use-case scenario involves the Dino teaching the child about a topic that is unwanted in the home.

> *Scenario C*
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> Sally is growing up in a very religious home, where evolution is not believed in. One day, as Sally is playing with the Dino, her questions lead to a conversation about evolution. The parents overhear and are very upset by what the Dino is teaching Sally.

Given the Dino relies on IBM Watson intelligence for its interactions with the child, which elicits much less scripted conversation than pre-recorded conversation pieces (Hello Barbie relies on pre-recorded content [2]), Elemental Path has significantly less control over the content the Dino ends up discussing with the child. The Dino does cater its interactions considering the age of the child, but I would recommend further filtering and appropriate constraints to prevent topics that may not be welcomed in the home.

The home is a sanctioned place which "is understood as a place where individuals retreat to find peace of mind and to cultivate intimate relationships" [4] such that from a privacy perspective, the home is where "there must be sufficient user control to enable users to choose what information they want to receive, and what they want to keep out" [5]. The Dino, while intruding on people's home life may not violate COPPA, the toy could violate societal norms on concepts of privacy within the home. This may result in mass consumer complaints regarding the content that the Dino brings into the home.

The use cases introduced in this report, among others, raise serious privacy concerns both for the Dino and other talking toys. COPPA is known to be a limiting law that while protecting privacy, also has unintended consequences of discouraging companies from developing technologies catered to the children under the age of 13 [6]. The goal here is not to highlight where the Dino does not meet the law, or to diminish the toy in any way, but rather aims to provide insights into a better product design such that we the Dino can remain within the law while still progressing the usage of technology for the education of this underserved age group.

Works Cited

[1] Elemental Path presents CongiToys - KickStarter Video. https://www.youtube.com/watch?v=o1tm5Xs5vIw

[2] Fowler, Geoffrey. Talking Toys are Getting Smarter: Should We Be Worried? *The Wall Street Journal*. http://www.wsj.com/articles/talking-toys-are-getting-smarter-should-we-be-worried-1450378215

[3] 16 CFR Part 312 - Children's Online Privacy Protection Rule. https://www.law.cornell.edu/cfr/text/16/part-312

[4] Daniel J. Solove, Conceptualizing Privacy, California Law Review, Vol. 90, p. 1087 (2002)

[5] Berman, J. and Weitzner, D.J., "Abundance and User Control: Renewing the Democratic Heart of the First Amendment in the Age of Interactive Media," 104 Yale Law Journal 1619, (1995)

[6] Magid, Larry. Unintended Consequences of FTC's New COPPA Children's Online Privacy Rules. *The Huffington Post.* http://www.huffingtonpost.com/larry-magid/unintended-consequences-o_1_b_1741703.html