Can You Delete a File From the Cloud if You Do Not Own It?

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Problem

Everyday users *benefit* from large storage resources and ubiquitous access to data with with cloud service.
Yet, their understanding of cloud data management appears incomplete and faulty

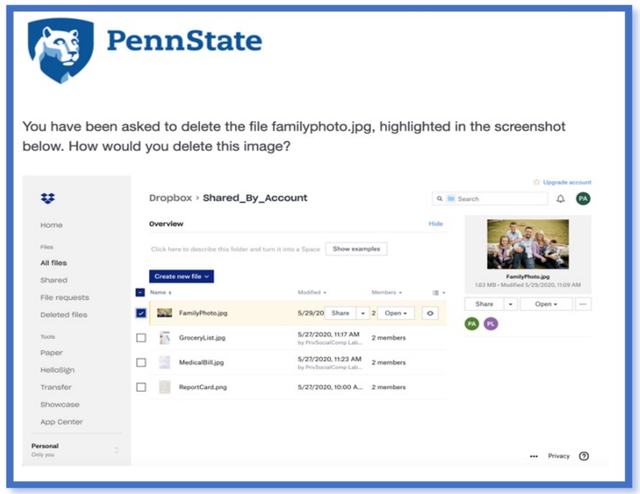
- **difficult** to identify who owns the data and, who has the right to erase them
- the notion of deletion itself can be **confusing;** users unclear on whether cloud deletion implies digital files removal or just that these files are now inaccessible to them

It is critical to further examine users' common misconceptions and knowledge gaps with cloud data deletion tasks.

Experiment

We conducted an online experiment (N = 105) on Qualtrics aiming to capture users' mental models in regards to data deletion, specifically their core misconceptions about how to effectively and permanently delete data stored in the cloud.

Using screenshots of **Dropbox** and **Google Drive**, we examined users' responses to deletion and ownership tasks where the content is either uploaded from the account that participants or shared by another account.



Results

Most participants failed to correctly identify the files' owner, with correct responses accounting for only **35.24%** of all responses to ownership-based questions.
Participants demonstrated a high degree of confusion about the deletion process, expressing their uncertainty about how to delete files.
No significant difference of users' responses between platforms.

Platform	Folder	Image	Correct Answer Rate			Conf
			Deletion	Ownership	Contributor	
Drive	Owned	S	40%	23.81%	6.67%	4.2
		Non-S	37.62%	25.24%	8.1%	4.21
	Shared	S	40.48%	44.76%	8.57%	4.13
		Non-S	41.43%	47.14%	9.52%	4.11
Dropbox	Owned	S	33.81%	23.81%	4.76%	3.96
		Non-S	29.52%	19.52%	7.62%	3.94
	Shared	S	34.29%	18.1%	5.71%	3.94
		Non-S	34.76%	20%	5.24%	3.93

Observations

Participants showed some degree of distrust toward cloud providers.
Yet, a lack of trust does not currently significantly impact users willingness to adopt these services.

Ongoing plans

Our preliminary analysis shows severe misunderstandings about users' control and privileges on cloud content, particularly when data is shared with and across multiple user accounts. Users' misunderstandings led to error-prone decisions, exposing own and others' unprotected content .

We plan to construct a simulated environment in which participants could conduct deletion actions instead of indicating them as options. Furthermore, additional variables, such as participants understanding of file permissions, may need to be considered.

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