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USER PERCEPTION OF DELETING INSTANT MESSAGES

EuroUSEC'18, London, UK, 23 April 2018

Theodor Schnitzler, Christine Utz, Florian M. Farke, Christina Pöpper, Markus Dürmuth

MOTIVATION

Instant Messaging

- New WhatsApp feature introduced October 2017
- Delete messages for everyone



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OVERVIEW

Messenger	Users	Del. Local	Del. Global	Hint	Chat	Eph Msg
Facebook Messenger	1300	●	○	○	●	○
Google Hangouts	19	○	○	-	●	○
GroupMe	9	●	○	○	●	○
Line	214	●	●	●	●	○
Signal	0.5	●	●	○	●	●
Skype	300	●	●	●	●	○
Snapchat	255	●	●	○	●	●
Telegram	100	●	●	○	●	●
Threema	3.5	●	○	○	●	○
Viber	260	●	●	●	●	○
WeChat	963	●	●	●	●	○
WhatsApp	1300	●	●	●	●	○

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Dialogue to select local or global



Local only



Global only



Delete and Recall
Separate functions



Conversations only



Confirmation of local deletion

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SELECTED EXAMPLES

Selected Examples

- WhatsApp provides **selection dialogue**
- Facebook Messenger allows **local deletion only**
- Skype allows **global deletion only**
- WeChat provides different functionalities: **Delete** and **Recall**
- Google Hangouts only allows deletion of the **entire conversation**
- Line requires the user to **confirm** that **recipients can still read** deleted messages



RESEARCH QUESTIONS

Research Questions

1. *What are users' expectations towards the functionality of deletion mechanisms?*
2. *Do specific implementations of this functionality match users' perceptions, i.e., do users correctly estimate the consequences of a particular deletion action?*

AGENDA

- Introduction
- **Methodology**
- Results
- Conclusion

WHAT WE DID

Experiment



- Send and delete a message
- Receiver's device under our control

Questionnaire



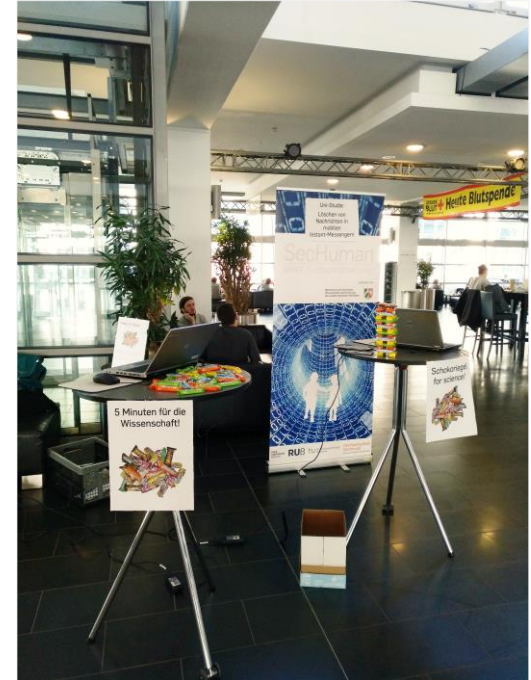
- Mobile device usage
- Message deletion practice
- Demographics

Revealing



- Presenting result on receiver's device
- Final questions on expectation matching

Entrance area of dining hall
125 participants (3 days)



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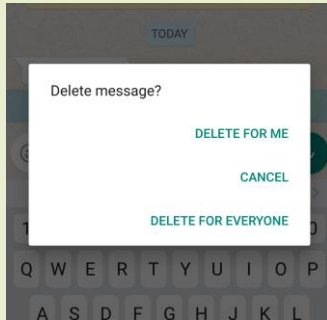
WHAT WE DID

Test Conditions



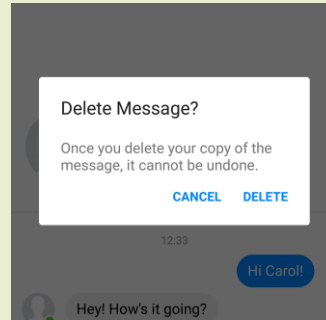
WhatsApp

Dialogue to select local or global deletion



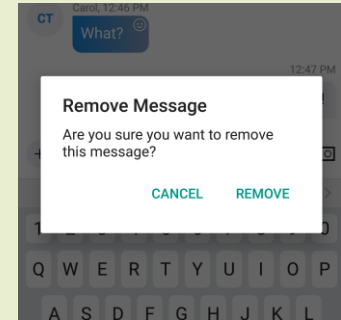
Facebook
Messenger

Only local deletion



Skype

Only global deletion



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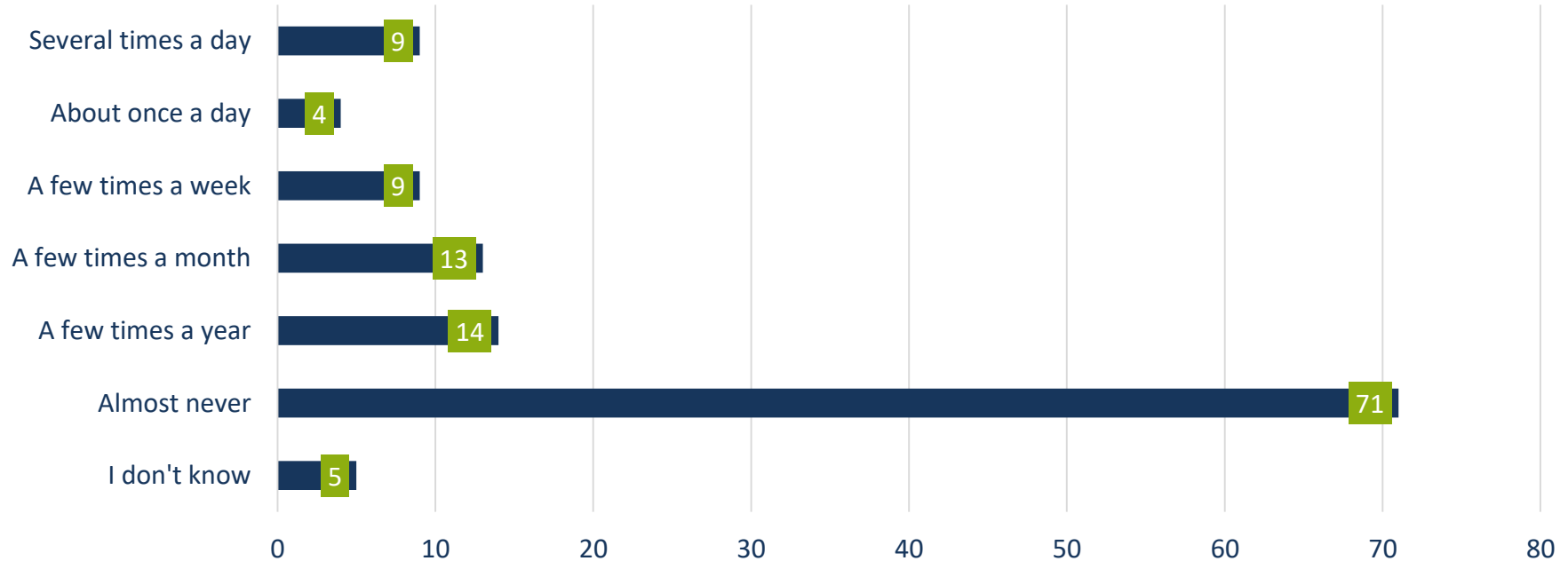
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HOW OFTEN DO USERS DELETE?

Q4: How often do you delete instant messages?



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WHY DO USERS DELETE?

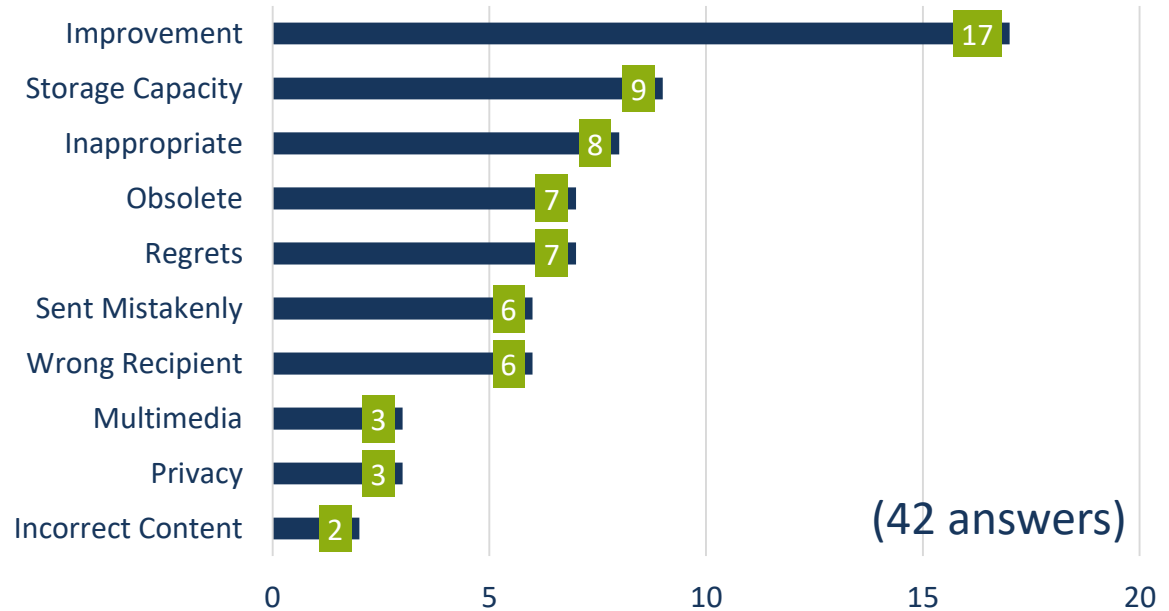
Q5: What are your reasons for deleting messages?

“only because of misspelling”

“just because they
consume some memory”

“message to the wrong person”

“grammatical failures or I regret
what I was going to say”



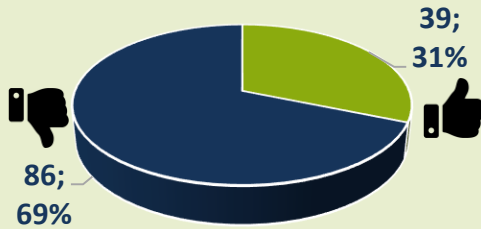
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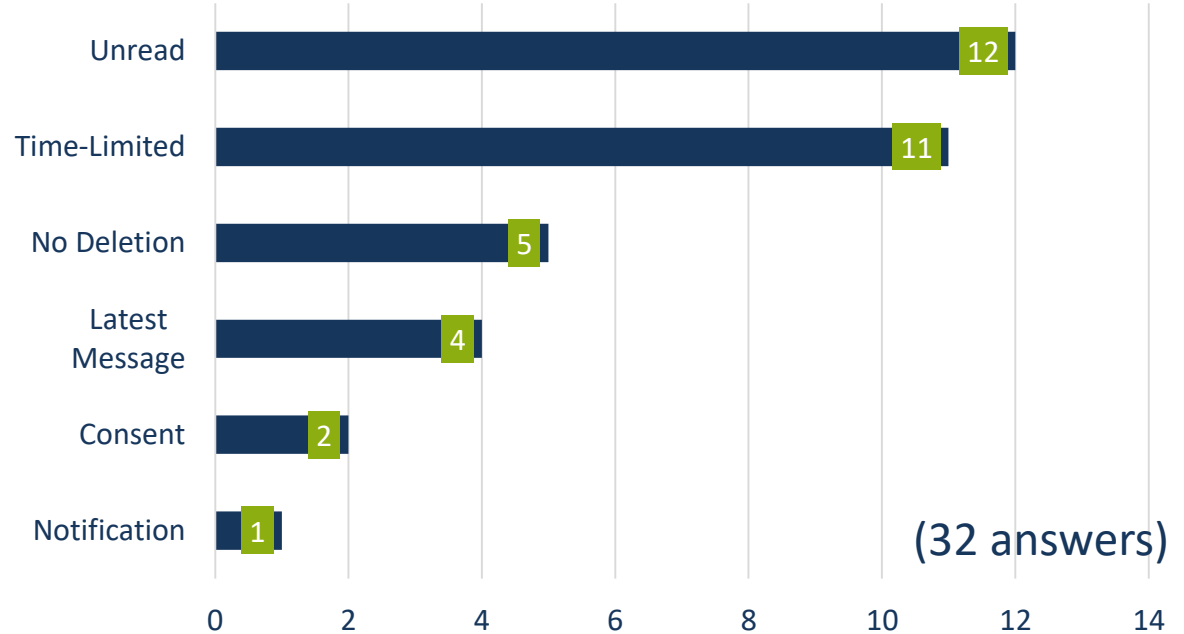
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DELETION LIMITATIONS

Q15: Do you think the deletion function should be limited?



Q16: How should the deletion function be limited?



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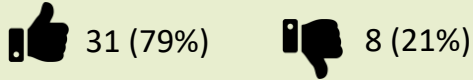
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DID USERS EXPECT WHAT HAPPENED?



WhatsApp

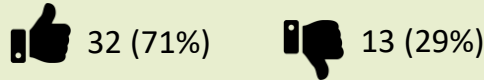


[YES] "Because I selected *delete for everyone* and that is what happened."

[NO] "I thought [the message] would not be deleted at the recipient."



Facebook
Messenger

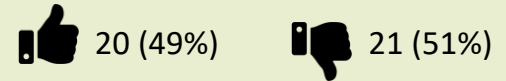


[YES] "Because the app did not ask me in which device did I want the message to be deleted."

[NO] "Because the message should have been deleted from the receiving device."



Skype



[YES] "Because I deleted the message."

[NO] "I expected the message to be deleted only from the sending device."

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REASONS FOR MISMATCHING

Q14: Why does this result match your expectations? Why not?



WhatsApp

2 participants were surprised that the **message was actually deleted**

5 answers refer to the **message deletion hint**



Facebook
Messenger

10 participants did not expect that the **message was still available**

1 participant expected a **message deletion hint**



Skype

8 participants were surprised that the **message was deleted**

3 answers refer to the **message deletion hint**

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LIMITATIONS

- Biased sample
 - Younger people
 - Frequent smartphone users
- Study environment
- Limited feedback in questionnaire

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CONCLUSIONS & OUTLOOK

- Implementations of message deletion differ widely
- 40% of participants delete messages for a variety of reasons
- Conflict of interest: control vs. consistency
- Is there influence of functionality terminology?
- Interface design: can selection dialogues improve user experience?
 - Clarifying functionality
 - Additional burden to the user