“Spiny CACTOS”
OSN Users Attitudes and Perceptions Towards Cryptographic Access Control Tools

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Cryptographic Access Control Tools for Online Social Networks
CRYPTOGRAPHIC ACCESS CONTROL TOOLS FOR ONLINE SOCIAL NETWORKS

“SNP-problems:”
1. Delegation of privacy settings enforcement
2. Disclosure of all content to the service provider
CACTOS

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Why is it that CACTOS have seen so little adoption in practice?
The study

Three parts:

1. Entry questionnaire.

2. Guided tour to *Scramble!*

3. Exit questionnaire.
The study

Three parts:

1. Entry questionnaire.
   - Q1 Concerned about SNP-problems?

2. Guided tour to *Scramble!*

3. Exit questionnaire.
The study

Three parts:

1. Entry questionnaire.
   Q1 Concerned about SNP-problems?
   Q2 Responsible for mitigating SNP-problems?

2. Guided tour to *Scramble!*

3. Exit questionnaire.
The study

Three parts:

1. Entry questionnaire.
   - Q1 Concerned about SNP-problems?
   - Q2 Responsible for mitigating SNP-problems?
   - Q3 Use a tool to solve SNP-problems?

2. Guided tour to Scramble!

3. Exit questionnaire.
The study

Three parts:

1. Entry questionnaire.
   - Q1 Concerned about SNP-problems?
   - Q2 Responsible for mitigating SNP-problems?
   - Q3 Use a tool to solve SNP-problems?

2. Guided tour to Scramble!
   - Introduction to CACTOS properties & SNP-problems

3. Exit questionnaire.
The study

Three parts:

1. Entry questionnaire.
   Q1 Concerned about SNP-problems?
   Q2 Responsible for mitigating SNP-problems?
   Q3 Use a tool to solve SNP-problems?

2. Guided tour to *Scramble!*
   + Introduction to CACTOS properties & SNP-problems

3. Exit questionnaire.
   Q4 CACTOS like *Scramble!* appropriate to address SNP-problems?
Scramble!

Disclaimer
This is Scramble initialisation dialog. This will work as a guide tour into the preferences of Scramble extension.

License
This software is distributed under Eclipse Public License (EPL)

Warning: Please be aware that all changes will affect Scramble! Preferences, for changing use Settings Menu.
Scramble!
Scramble!

BEGIN Scramble! URL
tinyurl.com/p9qsodr
END Scramble! URL
Scramble!
Scramble!
Study Setup

September 2013
Study Setup

September 2013

52 CMU students (42% female, average age 21.5 yo)
Results
Results: *Responsibility vs Control (Q1, Q2)*

“Who should decide...?” vs “Who should be responsible for...”
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“Who should decide...?” vs “Who should be responsible for...”

*Themselves : Facebook*
Results: *Responsibility vs Control (Q1,Q2)*

“Who should decide...?” vs “Who should be responsible for...”

*They themselves* : *Facebook*

81% : 24% vs 67% : 52%
More on responsibilisation

“What do you feel responsible for?” (Open question)
More on responsibilisation

“What do you feel responsible for?” (Open question)

*what I post & manage privacy settings*
More on responsibilisation

“What do you feel responsible for?” (Open question)

*what I post & manage privacy settings*

“What choice do I have? To trust Facebook.” (Q1,Q2)
Limitations of Facebook’s privacy settings (Q1)

“What privacy problems, if any, do you encounter using Facebook?” (Open question)

Lack of control over privacy settings
Limitations of Facebook’s privacy settings (Q1)

“Which privacy problems, if any, do you encounter using Facebook?” (Open question)

Lack of control over privacy settings **YES!**
Deleting info (indexing)
Limitations of Facebook’s privacy settings (Q1)

“Which privacy problems, if any, do you encounter using Facebook?” (Open question)

Lack of control over privacy settings YES!
Deleting info (indexing) YES!
Targetted ads
Limitations of Facebook’s privacy settings (Q1)

“Which privacy problems, if any, do you encounter using Facebook?” (Open question)

Lack of control over privacy settings YES!
Deleting info (indexing) YES!
Targetted ads YES!
Lack of control over other people’s activities
Limitations of Facebook’s privacy settings (Q1)

“Which privacy problems, if any, do you encounter using Facebook?” (Open question)

Lack of control over privacy settings YES!
Deleting info (indexing) YES!
Targeted ads YES!
Lack of control over other people’s activities NO...
Facebook tracking
Limitations of Facebook’s privacy settings (Q1)

“Which privacy problems, if any, do you encounter using Facebook?” (Open question)

Lack of control over privacy settings YES!
Deleting info (indexing) YES!
Targetted ads YES!
Lack of control over other people’s activities NO...
Facebook tracking NO...
Results: *Attitudes and Perceptions Towards Scramble!*

“Describe, in a few words your experience using Scramble!”
Results: **Attitudes and Perceptions Towards Scramble!**

“Describe, in a few words your experience using Scramble!”

cumbersome
Results: *Attitudes and Perceptions Towards Scramble!*

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Useful, but just for very private information
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What would be the advantages, if any, of using a tool like Scramble!, over, or in combination with, other privacy controls?
Results: Attitudes and Perceptions Towards Scramble!

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more privacy
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scepticism

Do you think encryption is a secure way of protecting your messages?
Results: Attitudes and Perceptions Towards Scramble!

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“Yes!”
Results: **Attitudes and Perceptions Towards Scramble!**

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more privacy
scepticism

Do you think encryption is a secure way of protecting your messages?
“Yes!”
scepticism
Results: Attitudes and Perceptions Towards Scramble! (2)

What is the difference between what Scramble! does and the privacy settings of Facebook?
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What is the difference between what Scramble! does and the privacy settings of Facebook?
“I don’t know if Facebook uses encryption”
What is the difference between what Scramble! does and the privacy settings of Facebook?

“I don’t know if Facebook uses encryption”

“I’m not exactly sure of how Facebook’s privacy stuff operates”
Results: Attitudes and Perceptions Towards Scramble! (2)

What is the difference between what Scramble! does and the privacy settings of Facebook?
“I don’t know if Facebook uses encryption”
“I’m not exactly sure of how Facebook’s privacy stuff operates”

What, if anything, did you like about scramble?
Results: *Attitudes and Perceptions Towards Scramble!* (2)

What is the difference between what Scramble! does and the privacy settings of Facebook?

“I don’t know if Facebook uses encryption”

“I’m not exactly sure of how Facebook’s privacy stuff operates”

What, if anything, did you like about scramble?

The idea behind it!
Conclusions

privacy concerns related to SNP-problems.
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too great a degree of protection, at too high a usability cost
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Some recommendations:

better explanations – more transparency!!
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Thank you!

Questions?