

A picture *for* a thousand words:

Understanding slide-capturing behavior at a conference

Lots of people capture slide photos in conferences

Why people capture What people capture How people manage
Photo; as an Information Capturing tool



Why people capture the slides?

What kinds of **contents** are captured?

How people **manage** slide captured contents?

What is the **typical lifecycle** of slide photos?

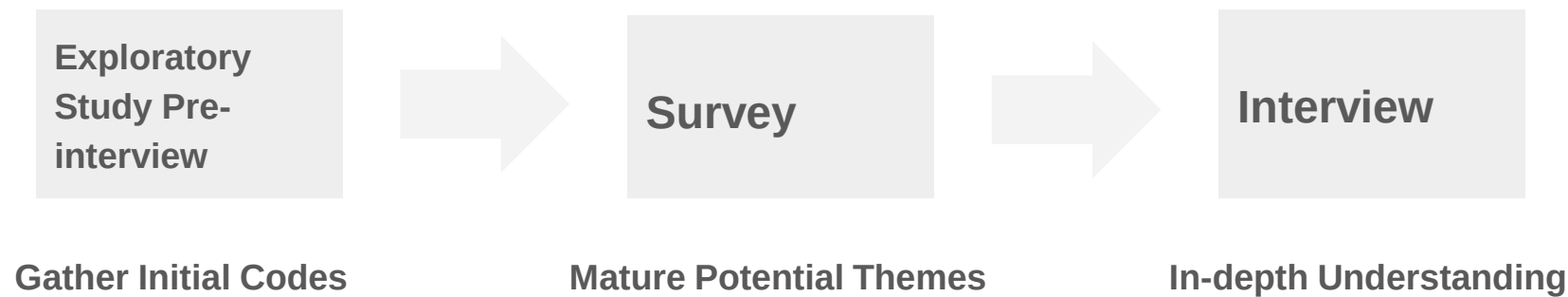
Major Themes

Purpose, Content, Usage, and Management

**Slide
Photos**

Lifecycle

**Design
Implication**

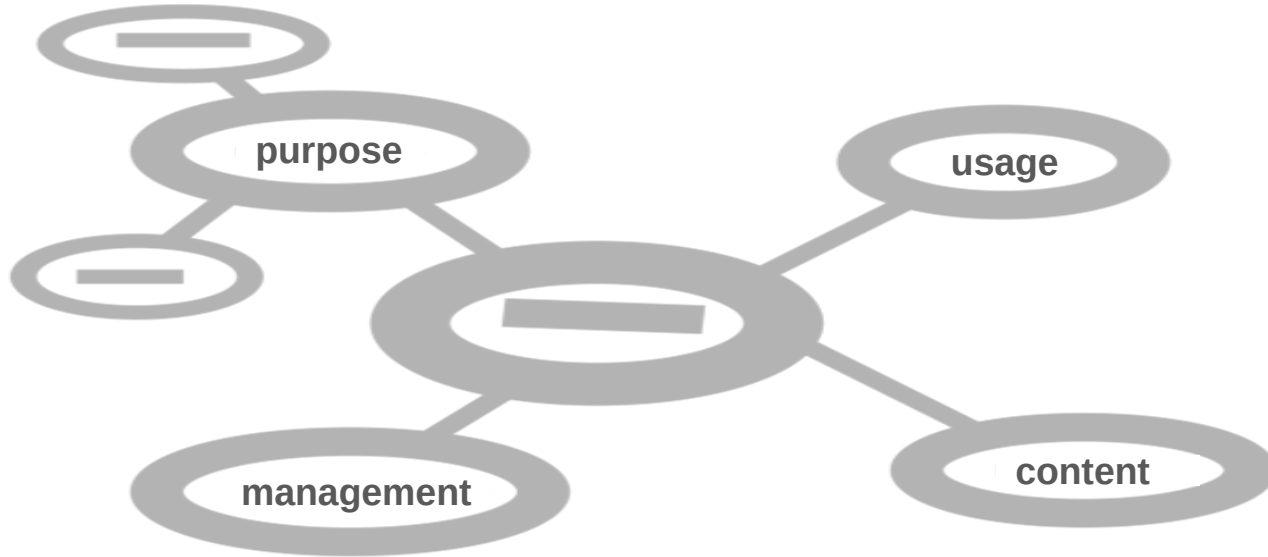


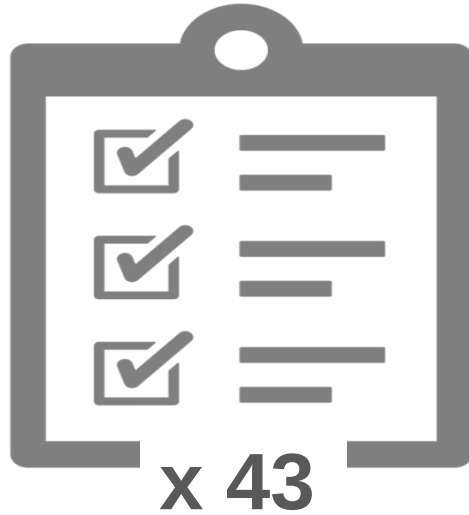
Pre-interview

Open ended exploration

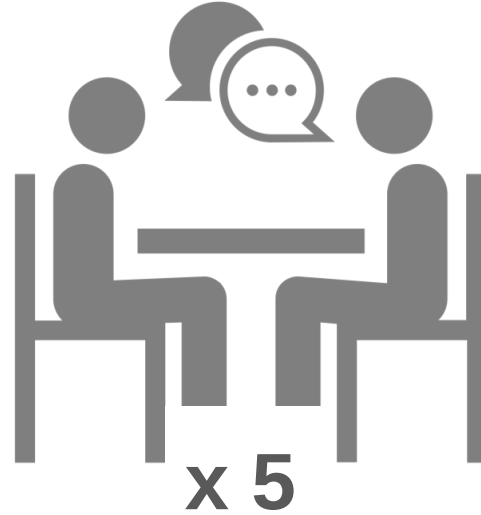


Gather Initial Codes





Survey



Interview

What are the **purposes** for the slide photos?

What are the main **contents** in the slide photos?

How the slide photos are **used**?

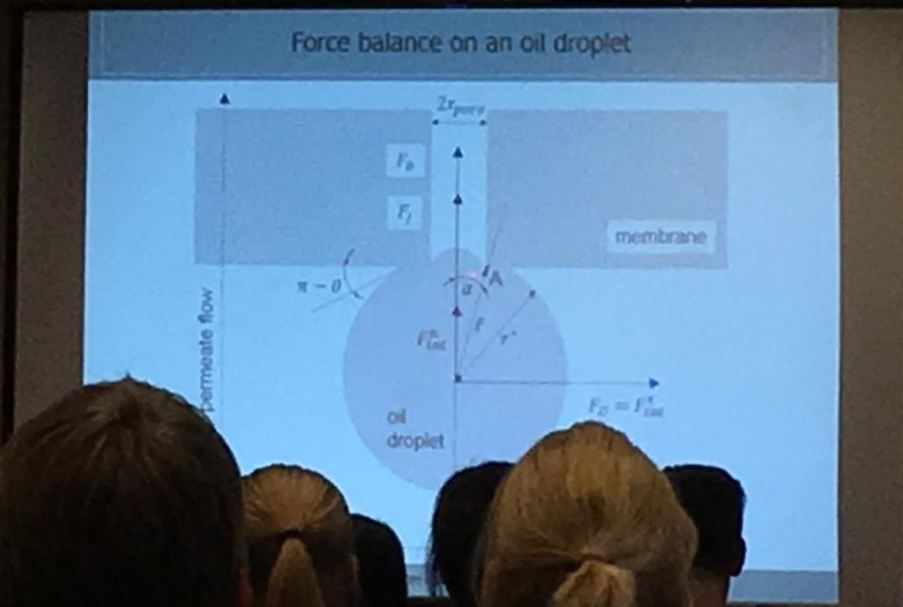
How did you **manage/transfer** the slide photos?



Purpose	#
<u>Recording information</u>	<u>35</u>
Sharing	12
Evidence of attendance	9
Commemoration	6

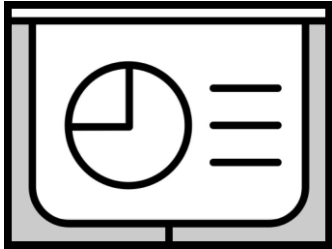


What do you want to record?	#
<u>Related to my research</u>	<u>30</u>
Impressive statistics	23
Impressive composition of the slide	16
Impressive talk as a whole	15
To match the presenter to the presentation	11



*“This slide is particularly important. I was **having hard time modeling this situation**, and the presenter gave **the exact formula that I was eagerly finding**. ”*

– P3



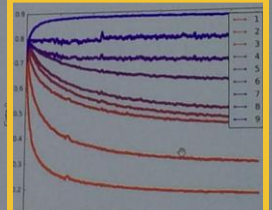
Type of the contents	#
<u>Impressive contents</u>	<u>24</u>
<u>Not likely to be in the paper</u>	<u>23</u>
<u>Summary & Conclusion</u>	<u>22</u>
Statistics	19
Emphasized by the presenter	13
Web page links, references	13
Question-incurring contents	7
Etc.(Acknowledgement, Inspiring, ...)	5

Training dynamics of the Carry Gate

- Mean normalized carry gate gain

$$\hat{t} = \mathbb{E}_x \left[\frac{C(x)}{C(x) + T(x)} \right]$$

- If a C-Gate is close to 1 the skip connection is preferred, hence the layer is not effective
- For lower layers the gates become less active



1. Impressive contents - P2

Training: Log-likelihood Loss

- Not feasible to calculate $p(y | x) = \sum_z p(z | x)$

Minimize $L = -\log(p(y | x)) = -\log \sum_z p(z | x)$ with approximation:

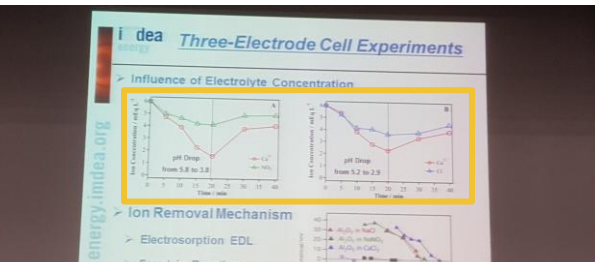
If $\alpha(t-1, n-1) p(y_n | t-1, n-1) > \alpha(t-1, n) p(e | t-1, n)$

$$h_{n-1} = \text{stm}(y_n, h_{t-1, n-1}, \text{encoder}(x_n))$$

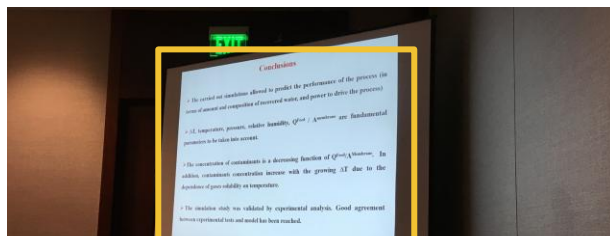
else



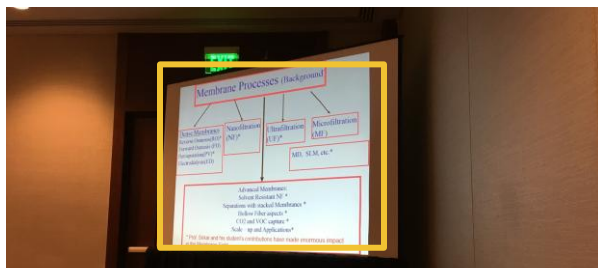
2. Not likely ... paper - P2



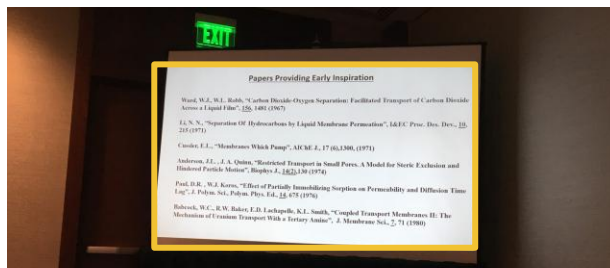
4. Statistics - P1



5. Emphasized by prsntr. - P3



3. Summary & Conclusion - P3



6. References - P3

Type of the contents

Impressive contents

Not likely to be in the paper

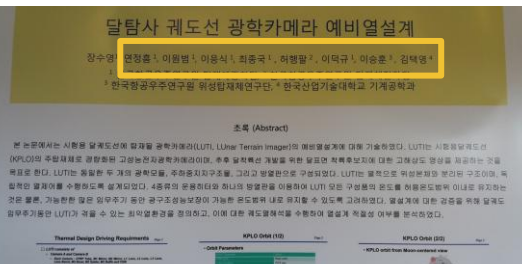
Summary & Conclusion

Statistics

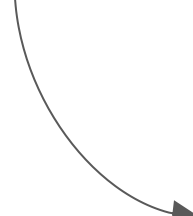
Emphasized by the presenter

Web page links, references

Question-incurring contents

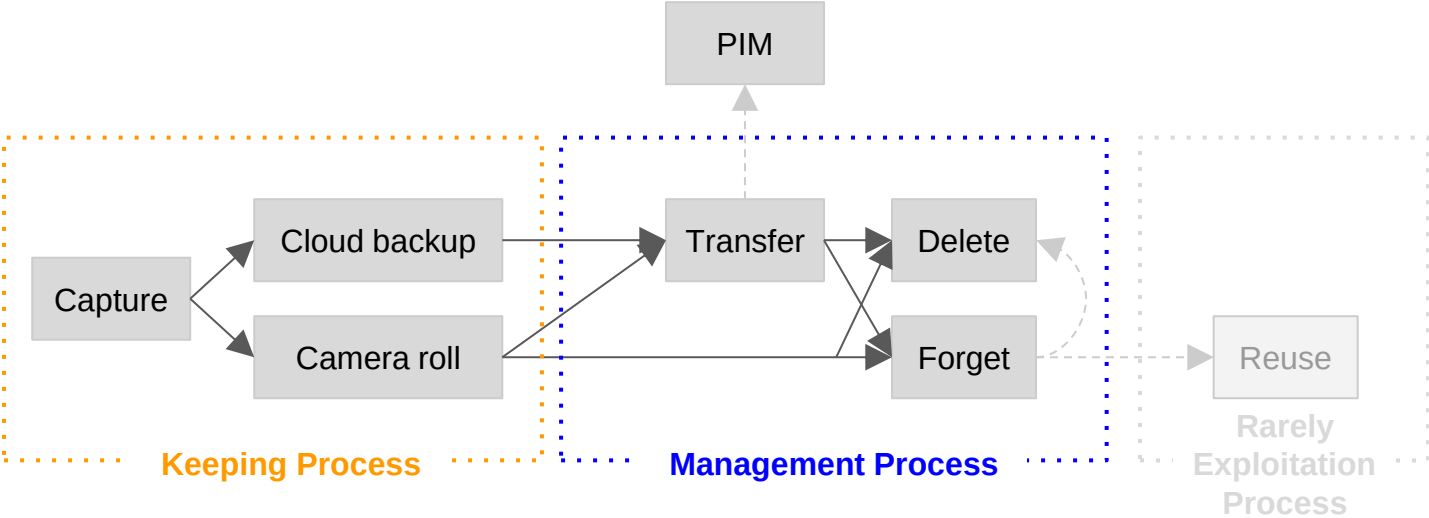


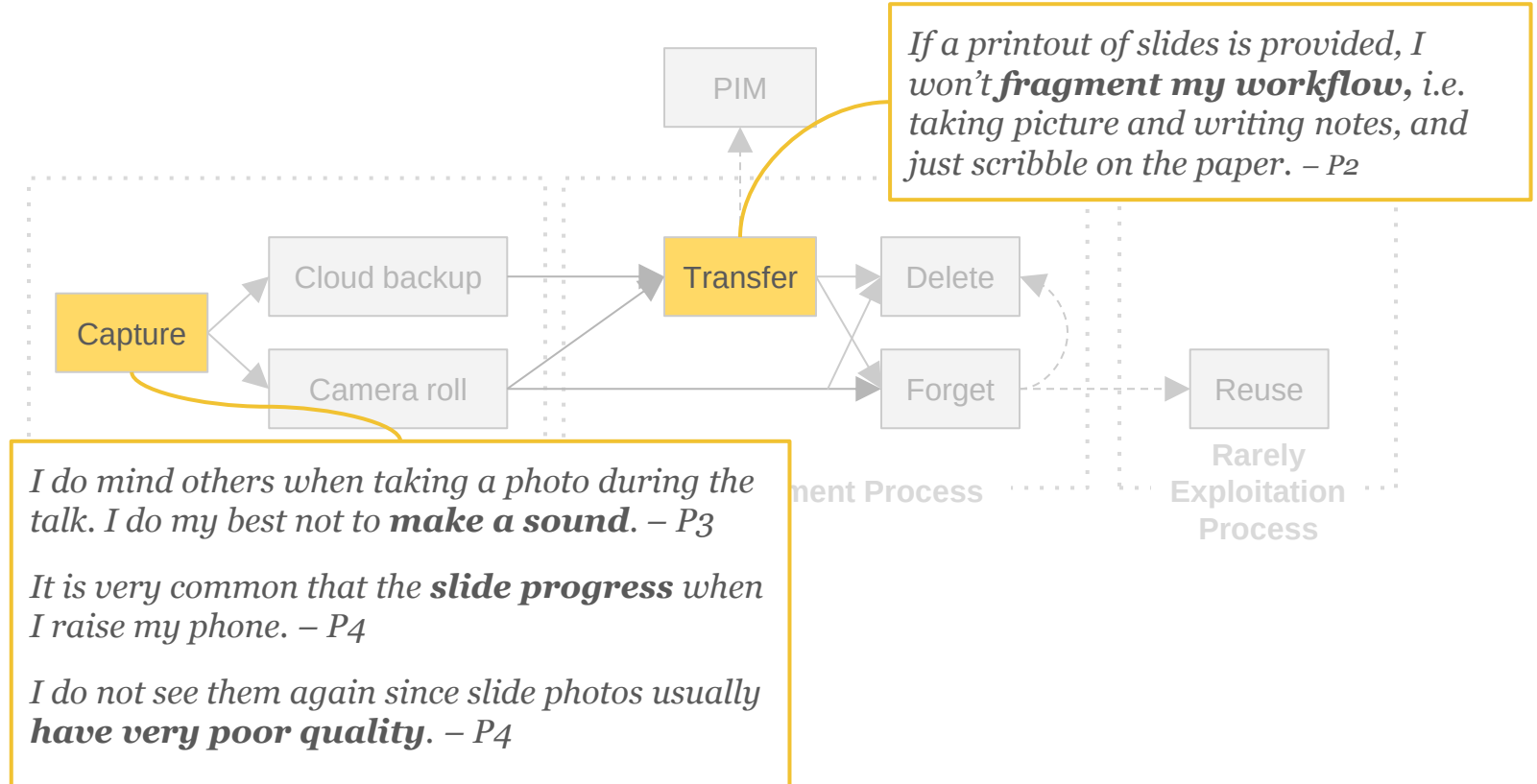
7. Question-incurring - P5

Usage	#	
<u>Personal collection</u>	<u>27</u>	●  “I took this picture because the figure in this slide summarized the paper I once have reviewed. ” – P ₂
<u>Temporary use</u>	<u>20</u>	●  “When the slide quickly goes to the next , I took this picture to refer and complete the note.” – P ₃
<u>Share with colleagues</u>	<u>20</u>	●  “I have captured the content which are related to my peer’s research to share it” – P ₃
Share at the lecture/seminar	6	
Use as an evidence (증빙)	6	
Share with acquaintances	5	
Upload to the SNS	3	

Many people were using **automatic backup features**
i.e. Google Photos, Dropbox Auto-upload

Management	#
<u>Auto-saving in the cloud</u>	<u>13</u>
Do nothing	12
Leave it on the smartphone storage	9
Copy to the PC drive	9
Organize into folders	7
Delete	7
Organize using specific tools(e.g. evernote)	3





Support ***silent*** and ***clear*** capture

Support ***separate management*** of the slide photos

Support people to ***take notes*** with the slide photo



Why people picture? **What** is captured? **How** people manage captured contents?

Purpose

Record Information

Sharing

Evidence for attendance

Commemoration

Content

Impressive contents

Not likely to be in the paper

Summary

Statistics

Emphasized Slide

References

Contents to ask

Usage

Personal collection

Temporary use

Share colleagues

Share at Seminar

For evidence

Share acquaintances

Upload SNS

Management

Autosave on Cloud

Do nothing

Leave it on the phone

Copy to the PC

Organize in folders

Delete

Organize with specific tool

What is the typical ***lifecycle*** of slide photos? **Keeping, Managing**

Design Implications: **Silent & Clear** capture, **Separate** management, **Integrated** workflow

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