



Literature Review

Pascal Matsakis
University of Guelph
CIS*6320
W18

1

Introduction
Literature

Review
Tools
Conclusion



2

Literature

What Is It?



The works

- scholarly articles
- books
- reports

relevant to

- particular issue
- area of research
- theory

Literature

Is It Reliable?



Works published in high quality journals
Works accepted at high quality conferences
Works written by high quality researchers

Literature

High Quality Journals



Usually characterized by

- high impact factor
- single-blind two-cycle review process

Literature

High Quality Journals



Impact factor for 2016

number of times articles
published in 2014–2015
were cited in indexed
journals during 2016

number of articles
published in 2014–2015

Literature

High Quality Journals



1. Author writes paper

7

Literature

High Quality Journals

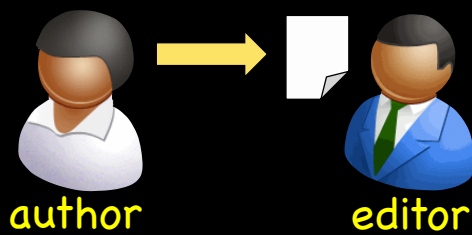


2. Author selects journal

8

Literature

High Quality Journals

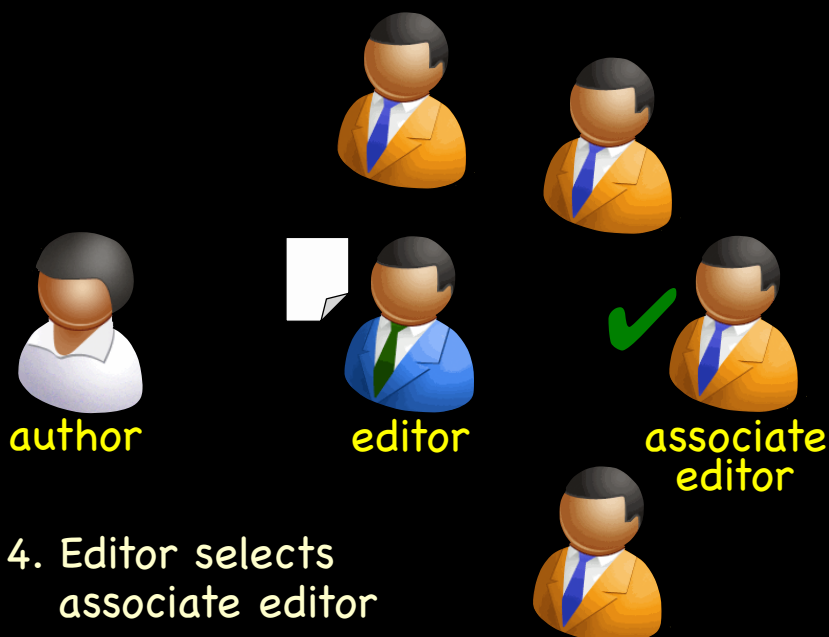


3. Author sends paper to journal's editor

9

Literature

High Quality Journals



4. Editor selects associate editor

10

Literature

High Quality Journals



author



editor



associate
editor

5. Editor sends paper to associate editor

11

Literature

High Quality Journals



author



editor



associate
editor



referee



6. Associate editor selects referees

12

Literature

High Quality Journals



author



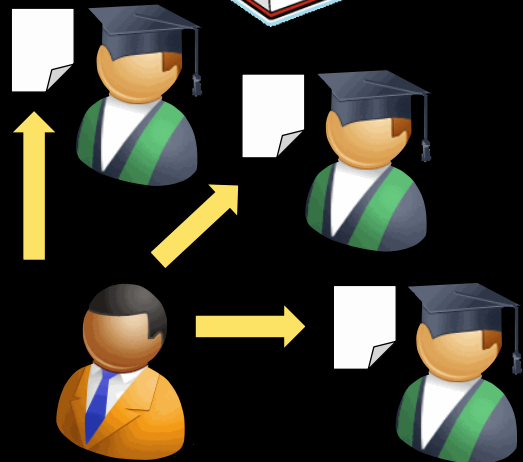
editor



associate
editor



referee



7. Associate editor sends paper to referees

13

Literature

High Quality Journals



author



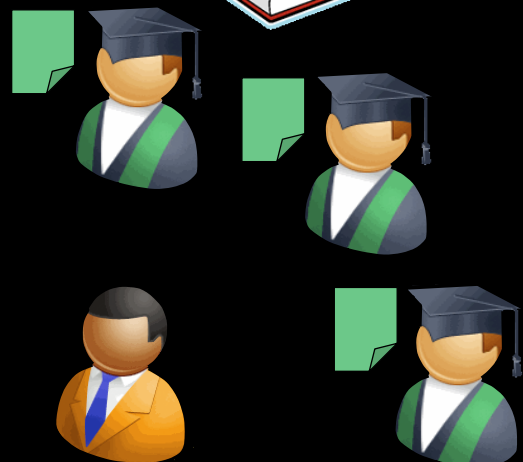
editor



associate
editor



referee

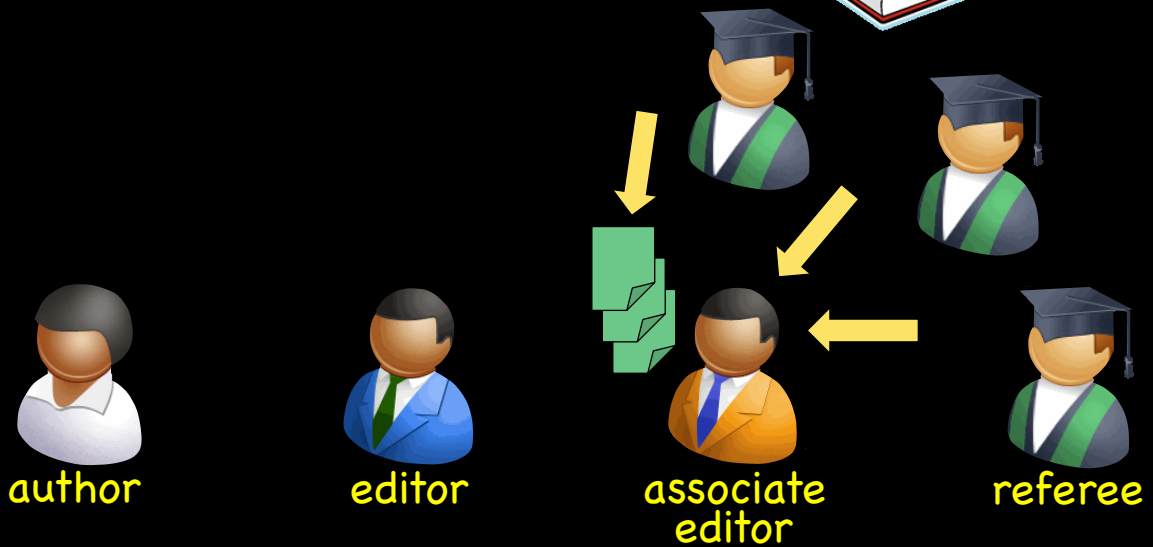


8. Referees review paper

14

Literature

High Quality Journals

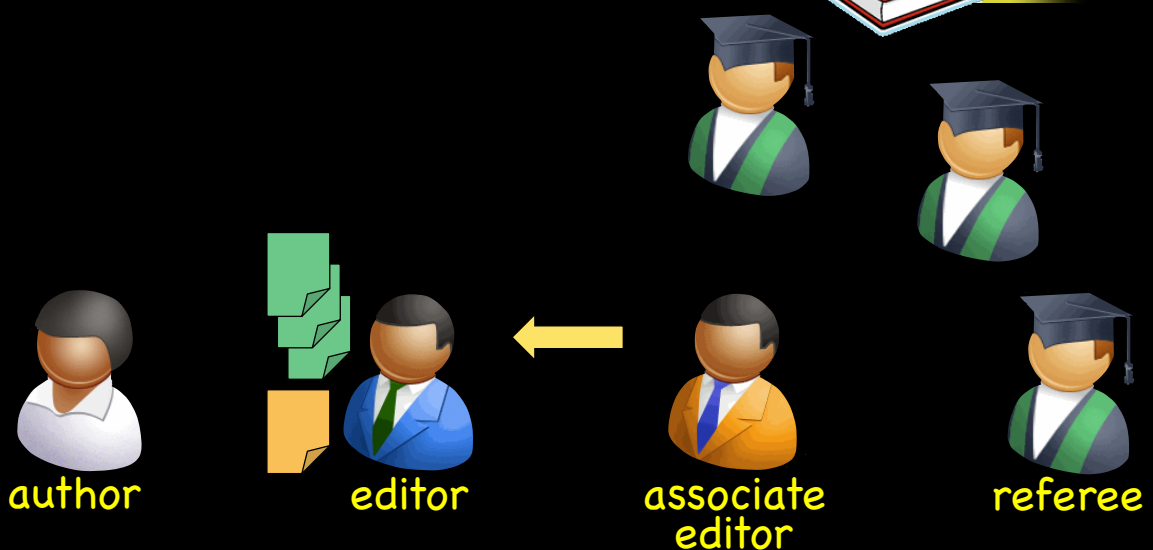


9. Referees send reviews and recommendations (minor/major changes, reject) to associate editor

15

Literature

High Quality Journals



10. Associate editor sends reviews and own recommendation (minor/major changes, reject) to editor

16

Literature

High Quality Journals



11. Editor sends reviews and decision (minor/major changes, reject) to author

17

Literature

High Quality Journals

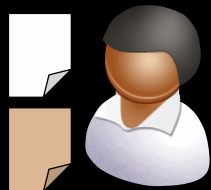


MAJOR CHANGES

18

Literature

High Quality Journals



author



editor



associate
editor



referee



12. Author revises paper and writes explanation letter

19

Literature

High Quality Journals



author



editor



associate
editor



referee



13. Author sends paper and letter to editor

20

Literature

High Quality Journals



author



editor



associate
editor



referee

14. Editor sends paper and letter to associate editor

21

Literature

High Quality Journals



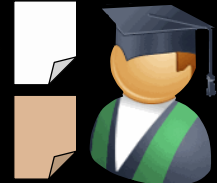
author



editor



associate
editor



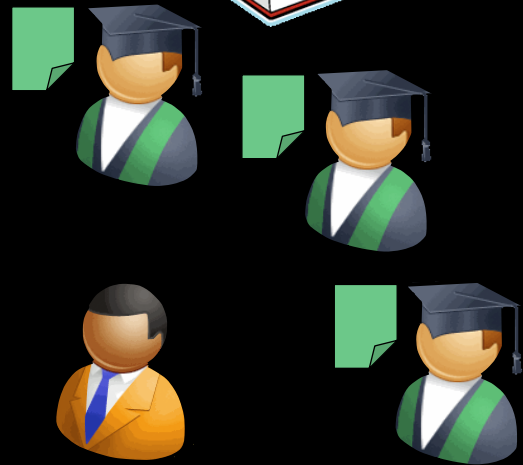
referee

15. Associate editor sends paper and letter to referees

22

Literature

High Quality Journals



author

editor

associate
editor

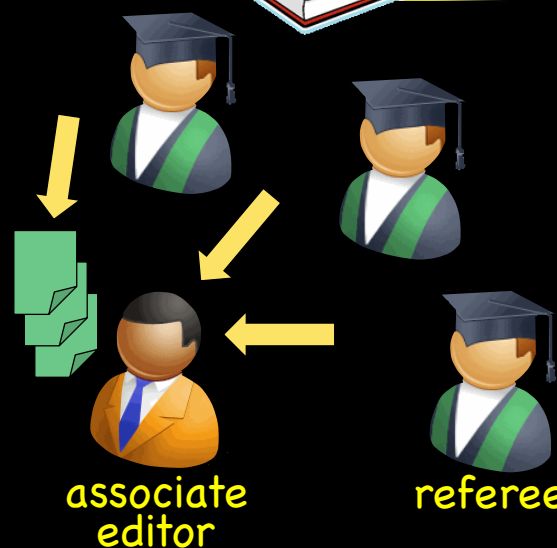
referee

16. Referees review paper

23

Literature

High Quality Journals



author

editor

associate
editor

referee

17. Referees send reviews and recommendations
(minor changes, reject) to associate editor

24

Literature

High Quality Journals



author



editor



associate
editor



referee

18. Associate editor sends reviews and own recommendation (minor changes, reject) to editor

25

Literature

High Quality Journals



author



editor



associate
editor



referee

19. Editor sends reviews and decision (minor changes, reject) to author

26

Literature

High Quality Journals



author



editor

MINOR CHANGES

27

Literature

High Quality Journals



author



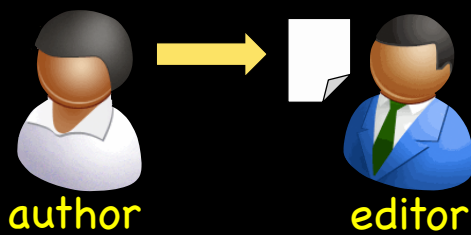
editor

20. Author revises paper

28

Literature

High Quality Journals



21. Author sends paper to editor

29

Literature

High Quality Journals

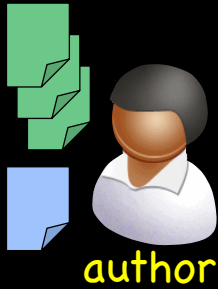


22. Editor sends paper to production department

30

Literature

High Quality Journals



author

REJECT

31

Literature

High Quality Journals



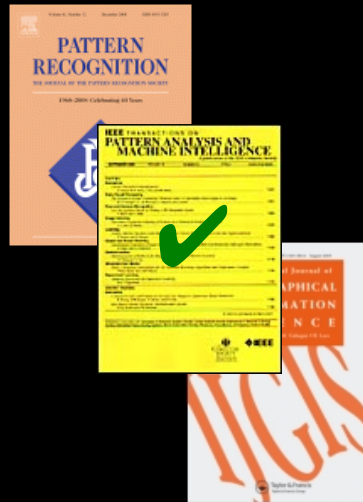
author

20. Author revises paper

32

Literature

High Quality Journals



21. Author selects (lower quality) journal

33

Literature

High Quality Conferences



Usually characterized by

- low acceptance rate
- single-blind one-cycle review process

34

Literature

High Quality Conferences



Acceptance rate

$$\frac{\text{number of papers accepted}}{\text{number of papers submitted}}$$

35

Literature

High Quality Conferences



1. Author writes paper



36

Literature

High Quality Conferences

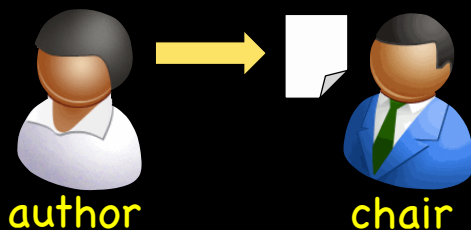


2. Author selects conference

37

Literature

High Quality Conferences

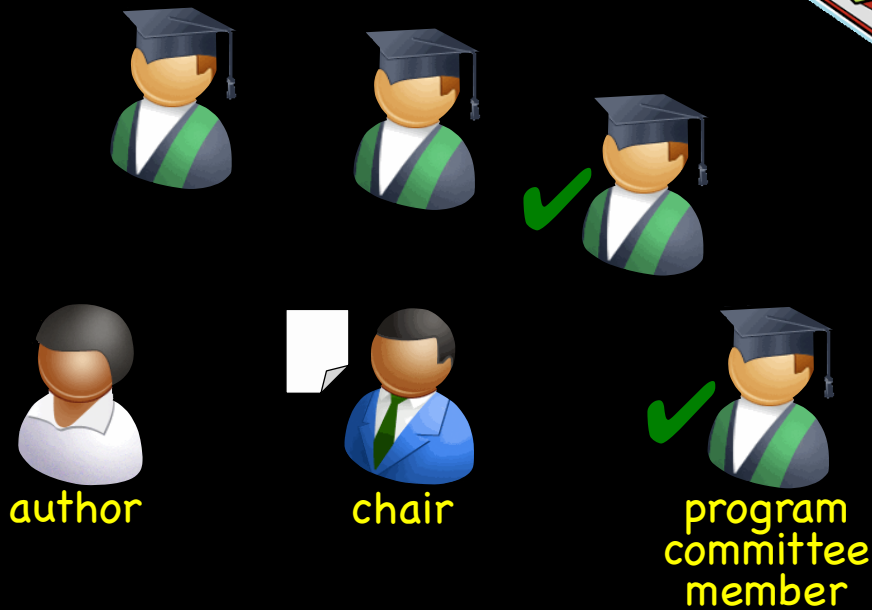


3. Author sends paper to conference chair

38

Literature

High Quality Conferences

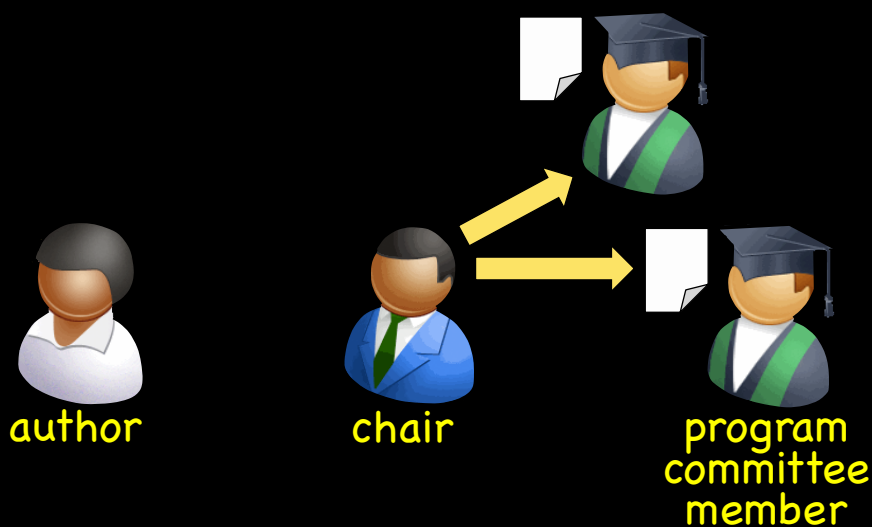


4. Chair selects referees

39

Literature

High Quality Conferences

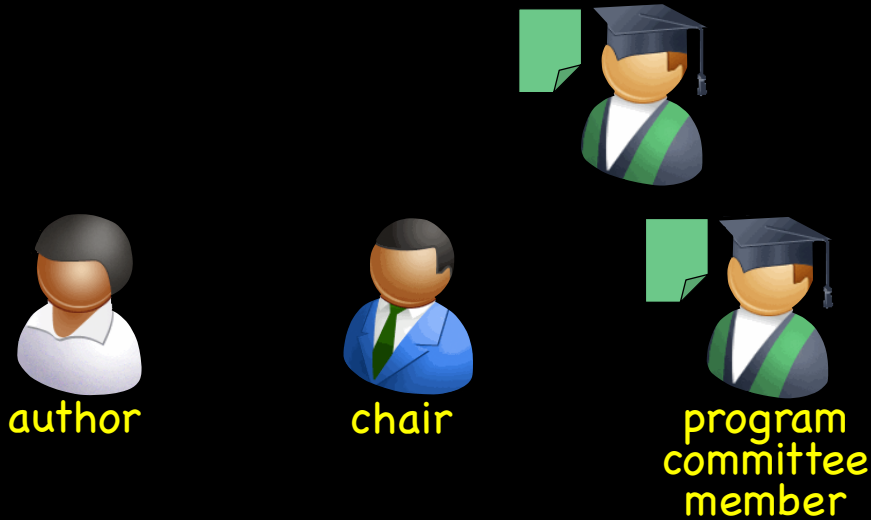


5. Chair sends paper to referees

40

Literature

High Quality Conferences

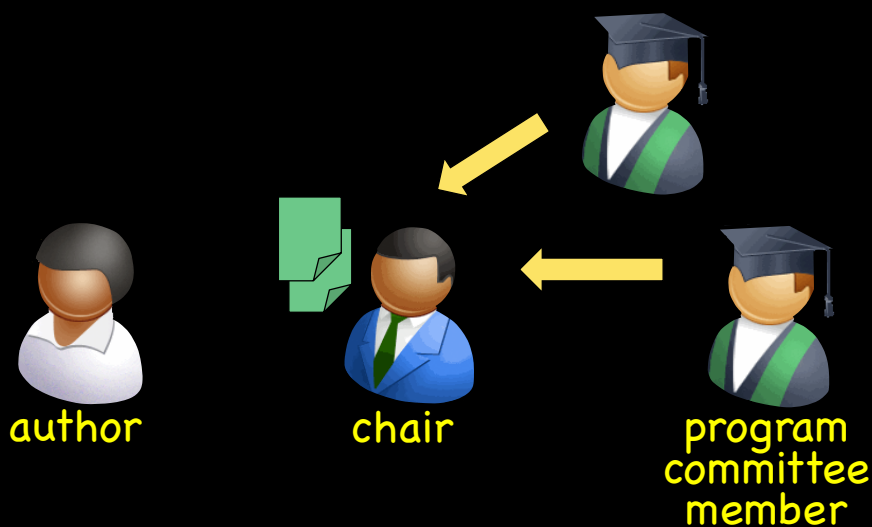


6. Referees review paper

41

Literature

High Quality Conferences

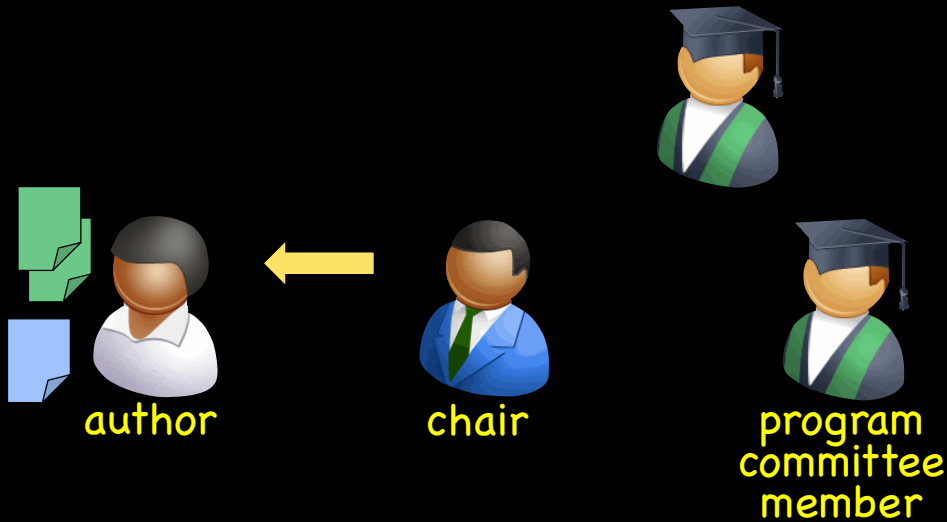


7. Referees send reviews and recommendations (accept, reject) to chair

42

Literature

High Quality Conferences



8. Chair sends reviews and decision
(accept, reject) to author

43

Literature

High Quality Conferences

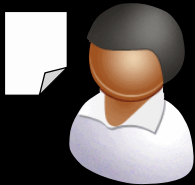


ACCEPT

44

Literature

High Quality Conferences



author



chair

9. Author revises paper

45

Literature

High Quality Conferences



author



chair

10. Author sends paper to chair

46

Literature

High Quality Conferences



author



chair

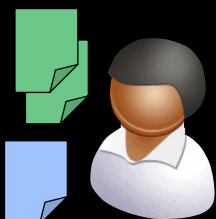


11. Chair sends paper to production department

47

Literature

High Quality Conferences



author

REJECT

48

Literature

High Quality Conferences



9. Author revises paper

49

Literature

High Quality Conferences



10. Author selects (lower quality) conference

50

Literature

High Quality Researchers



Quality sometimes measured by H-index

A scientist has index H if

- H of his N papers have at least H citations each
- the other $N-H$ papers have at most H citations each

51

Literature

Categorization



1. Journal papers
reliable ★★★, up-to-date ★★★
2. Conference papers
reliable ★★★, up-to-date ★★★
3. Dissertations
reliable ★★★, up-to-date ★★★
4. Book chapters
reliable ★★★, up-to-date ★★★

52

Literature Categorization



5. Reports

reliable ★★★, up-to-date ★★★

6. Internet

reliable ★★★, up-to-date ★★★

7. Newspapers

reliable ★★★, up-to-date ★★★

8. Informal sources

reliable ★★★, up-to-date ★★★

53

Introduction
Literature
Review

Tools
Conclusion



54

Review

What Is It?



If you want to

- find out what you should research
- find out if your research project is sound

Then you should

1. find what others have done
2. evaluate existing approaches and theories
3. identify relationships, inconsistencies, disagreements
4. identify gaps and shortcomings

i.e., do a literature review

55

Review

What Is It?



As a result, you will

- get ideas
- not reinvent the wheel
- understand what is doable and worthwhile
- position your project relative to previous work
- increase your breadth of knowledge
- identify other people in the same field

56

Review

1. Collecting

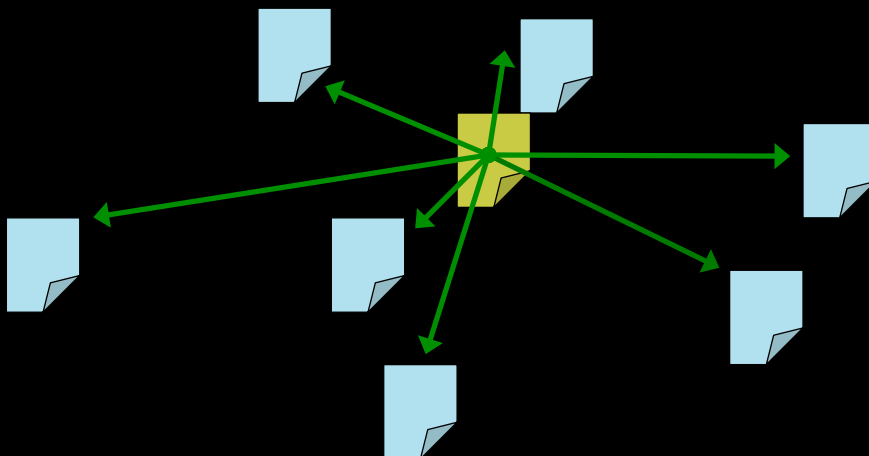


YAY! I have found ONE relevant work!

57

Review

1. Collecting

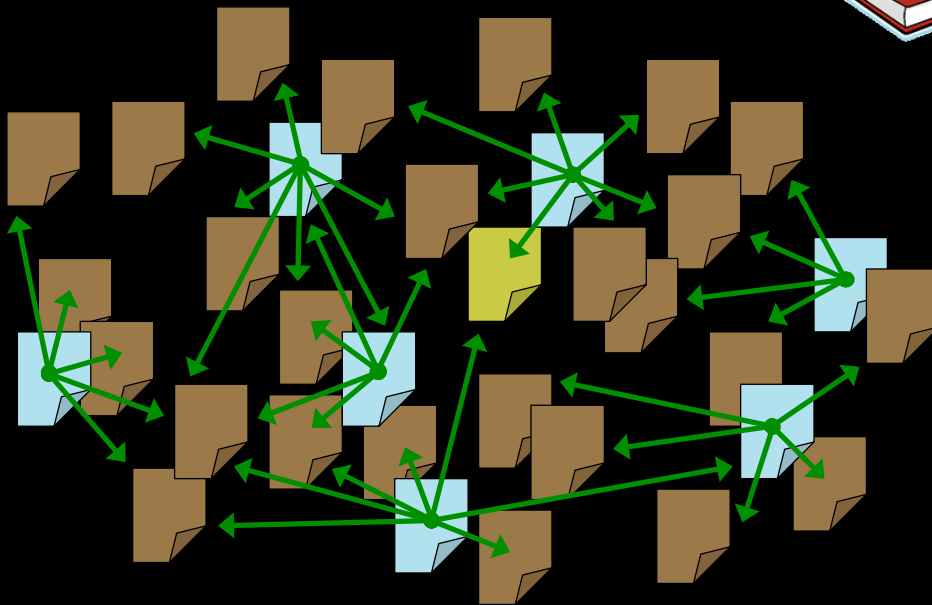


Wow. It cites many works.

58

Review

1. Collecting

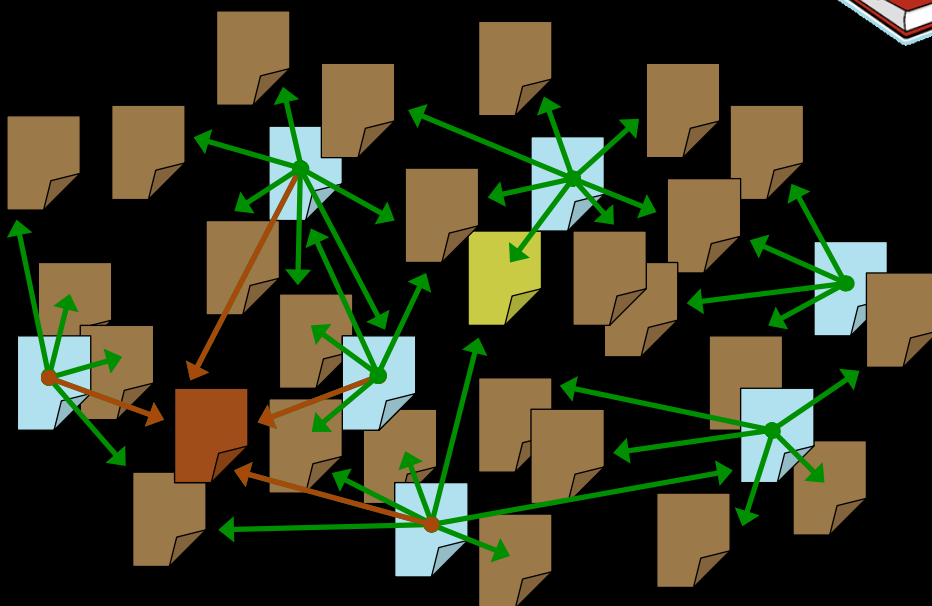


Oh no! Each one of them cite many other works!

59

Review

1. Collecting

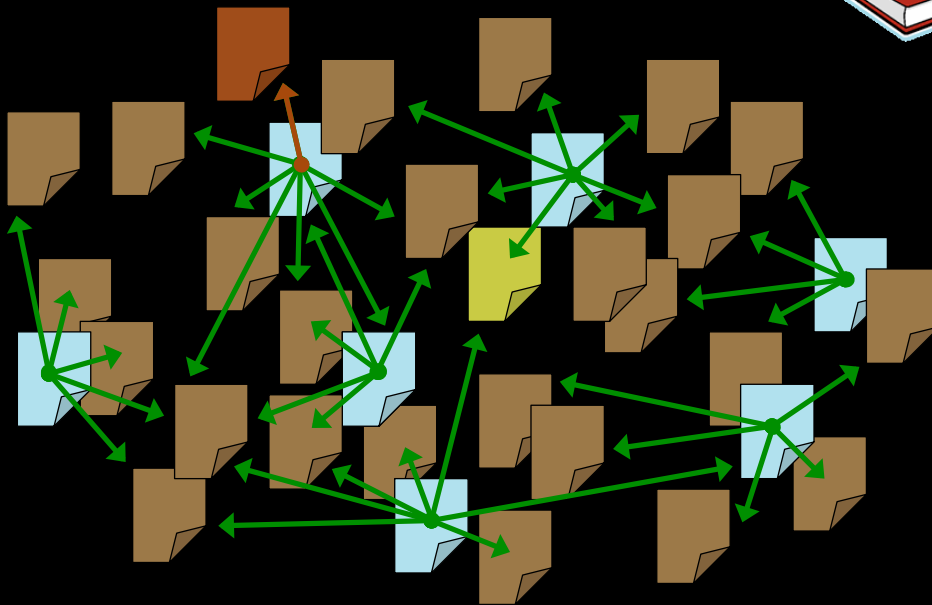


Look at that. This work is cited by many others.

60

Review

1. Collecting

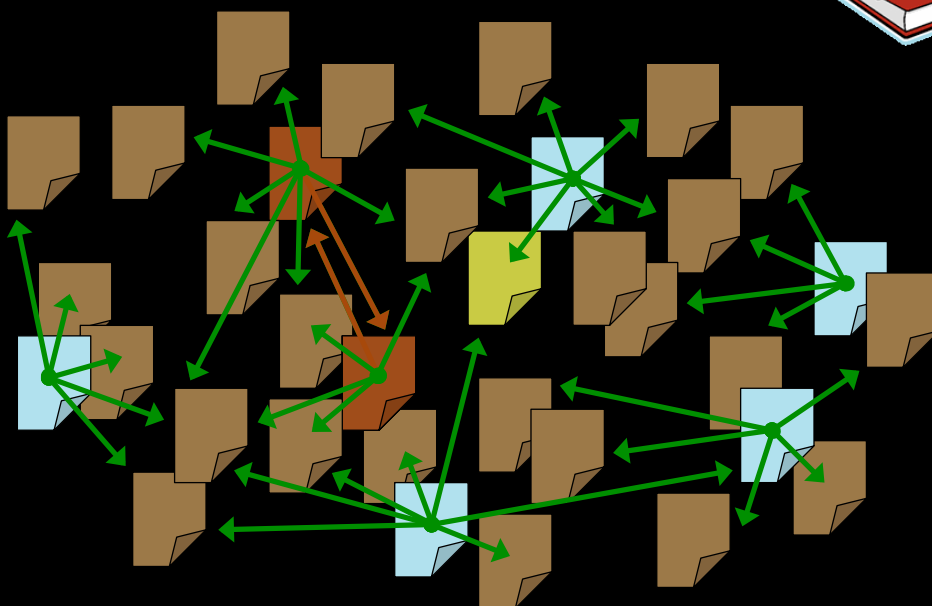


While this one is cited by only one other.

61

Review

1. Collecting



And these two cite each other!

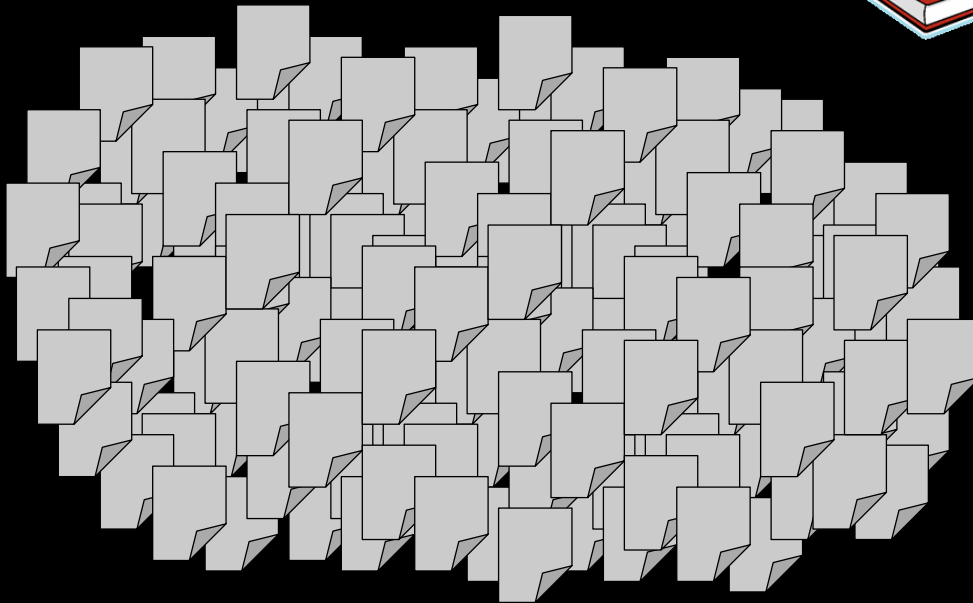
62

Review

1. Collecting... Too Much!



U
of G



Now I'm in trouble.

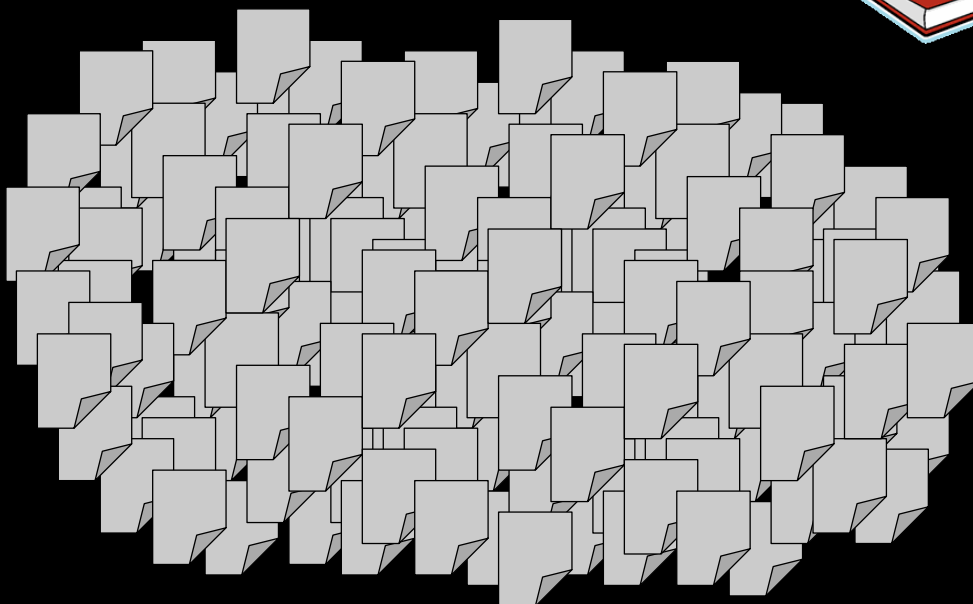
63

Review

2. Screening



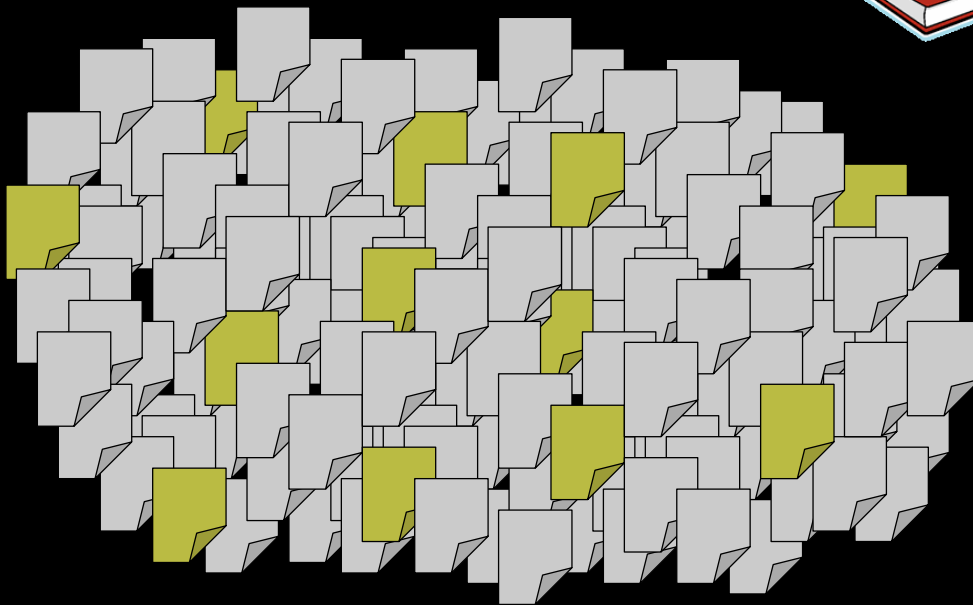
U
of G



64

Review

2. Screening

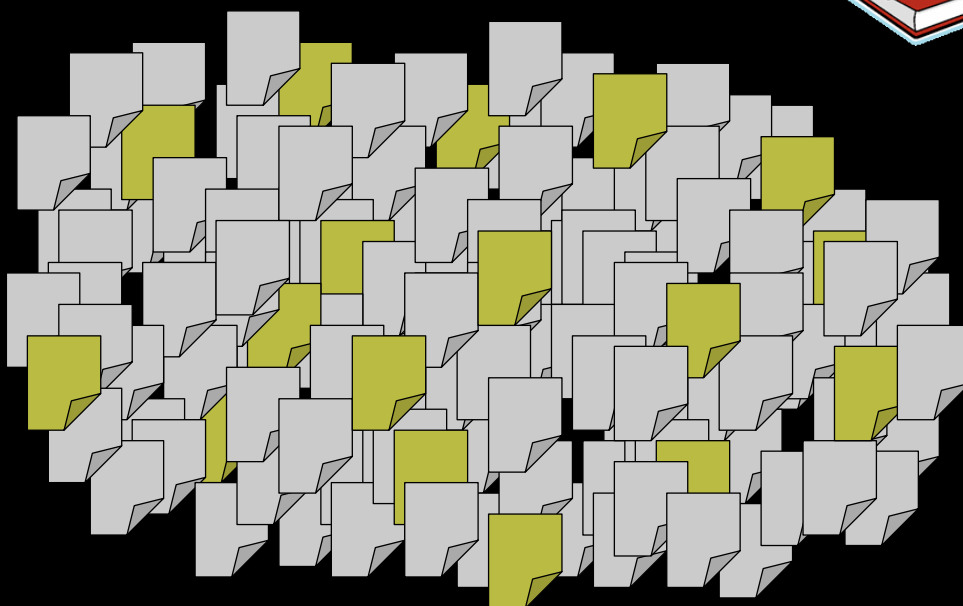


Sorry, I can't read Chinese.

65

Review

2. Screening

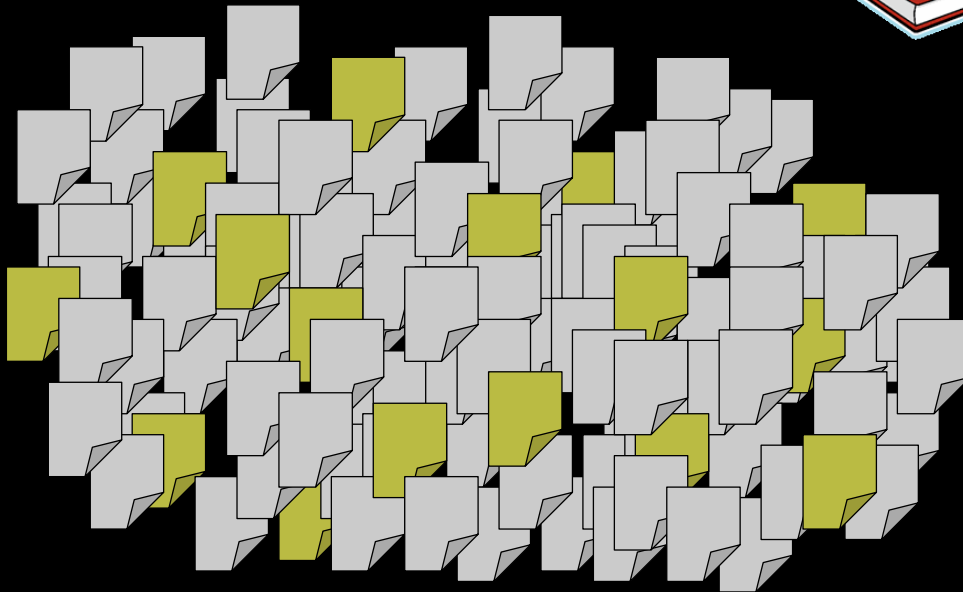


Sorry, I do not trust these works.

66

Review

2. Screening

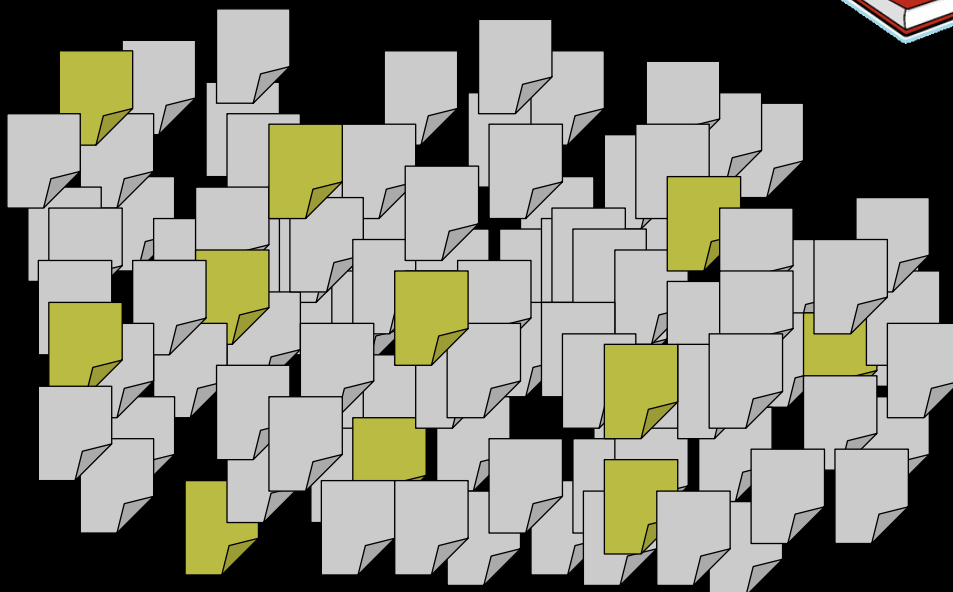


These works are not really relevant.

67

Review

2. Screening

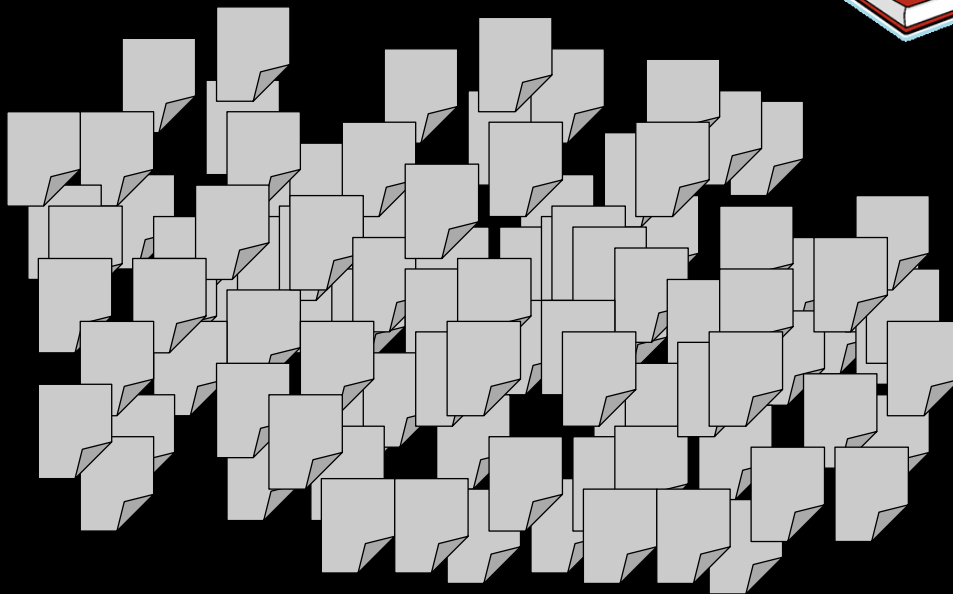


These ones are crap, no doubt.

68

Review

2. Screening

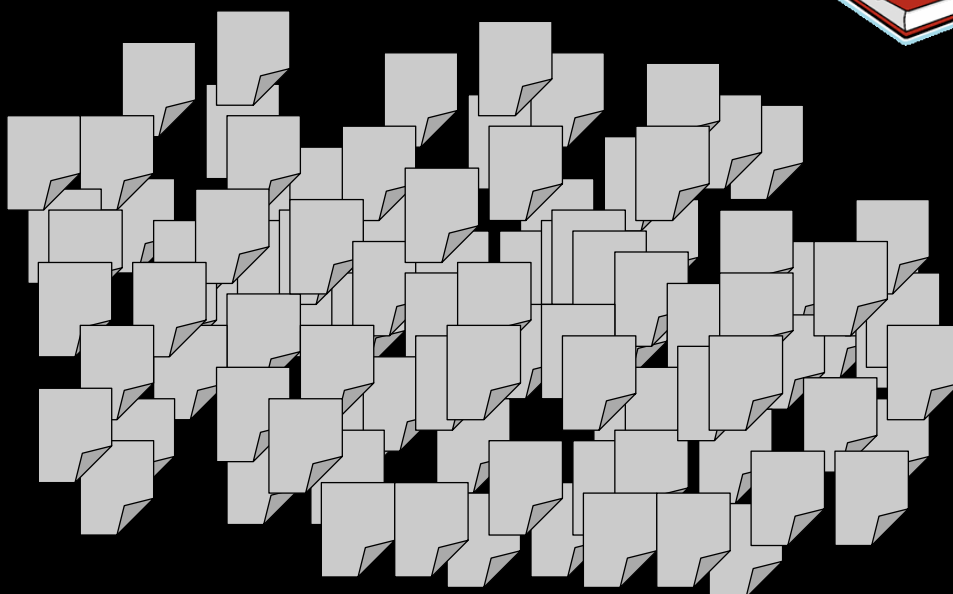


Better!

69

Review

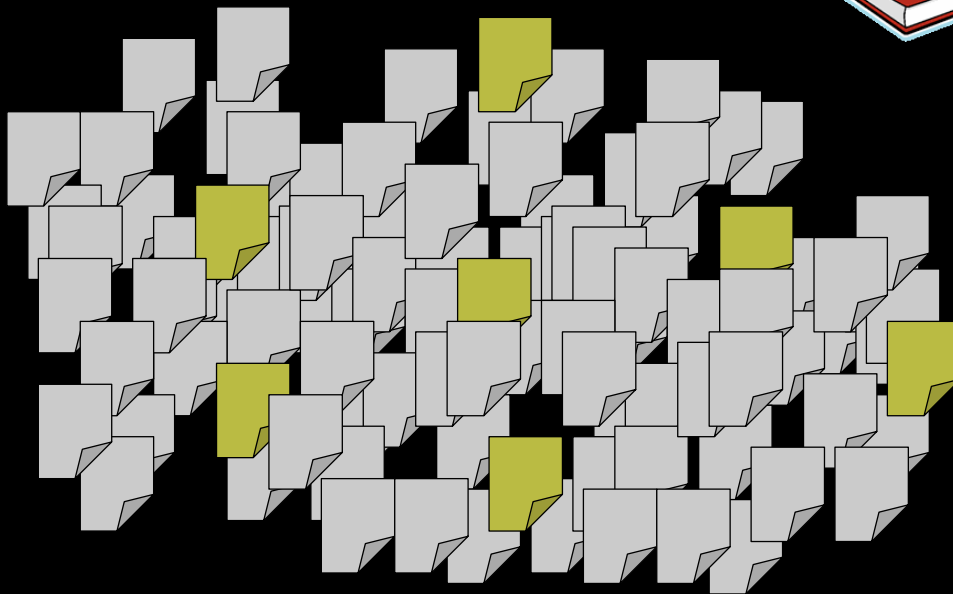
3. Analyzing



70

Review

3. Analyzing

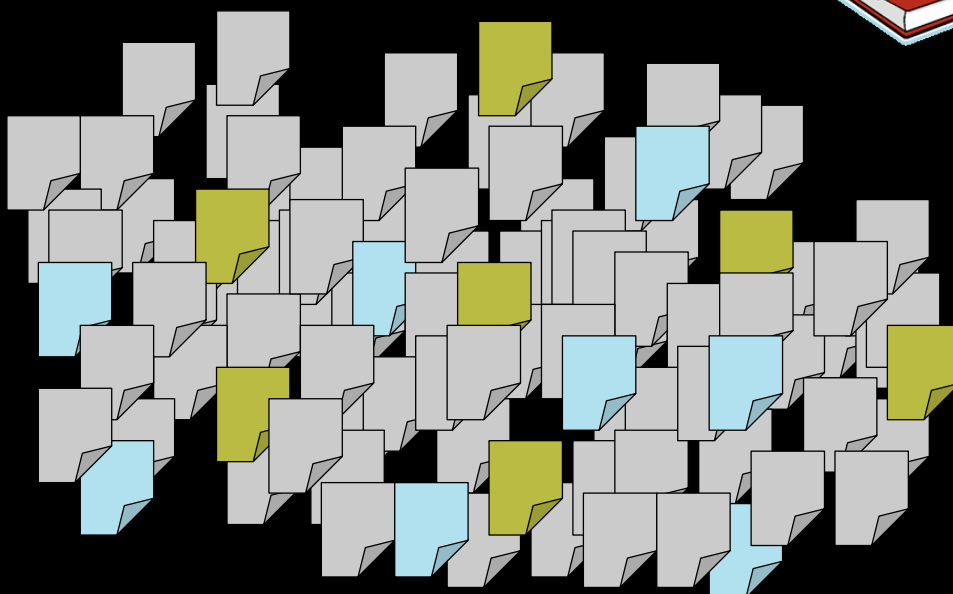


These works use the same approach

71

Review

3. Analyzing

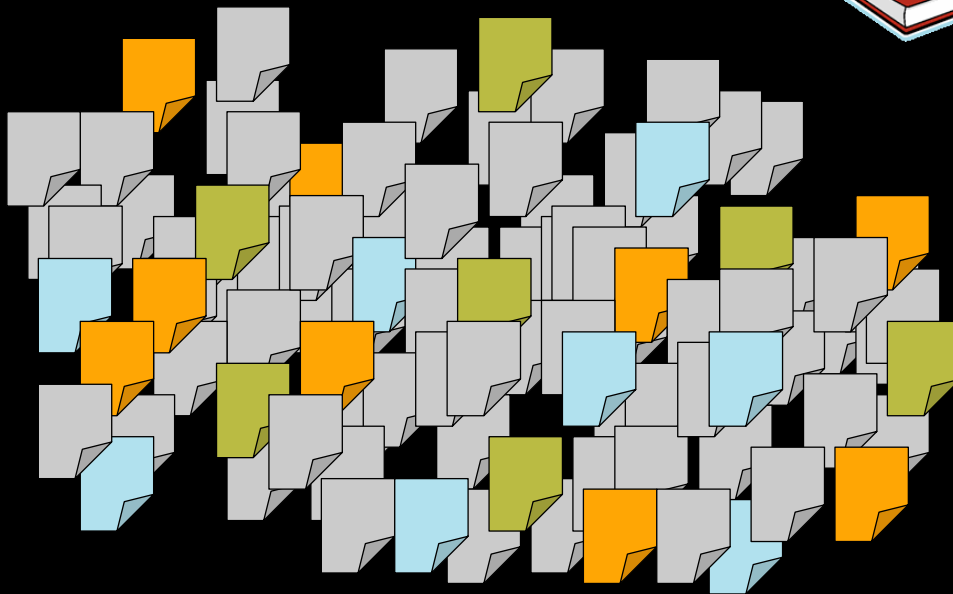


Same other approach

72

Review

3. Analyzing

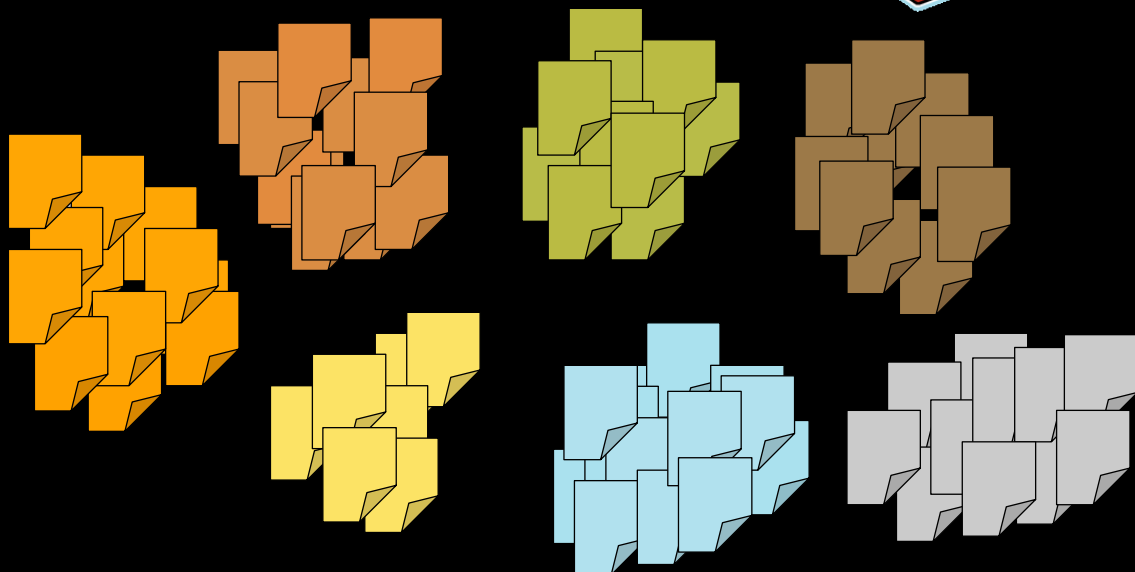


And again

73

Review

3. Analyzing

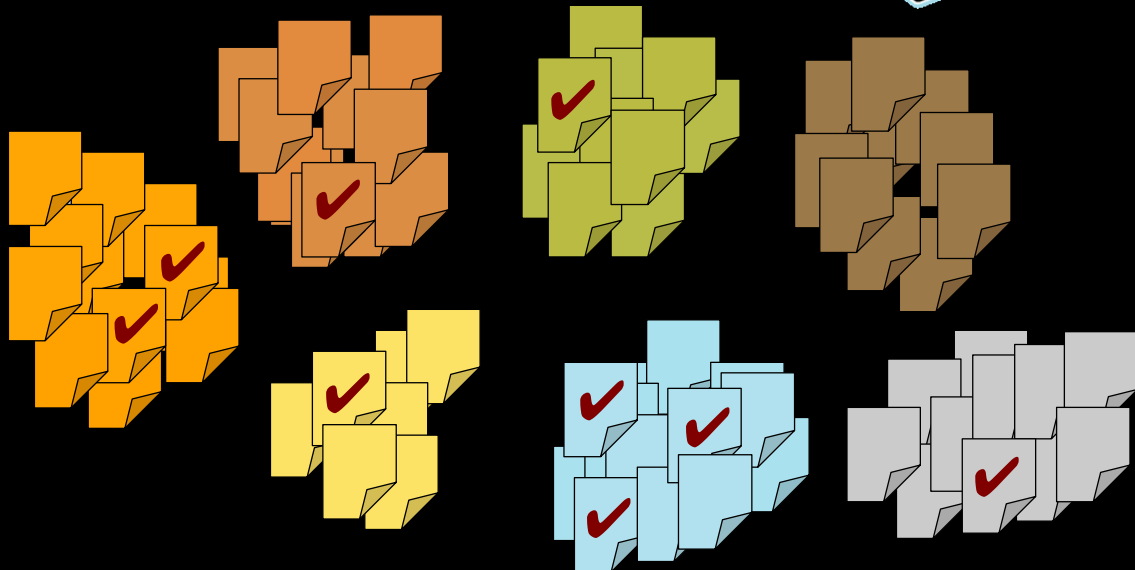


Better!

74

Review

3. Analyzing

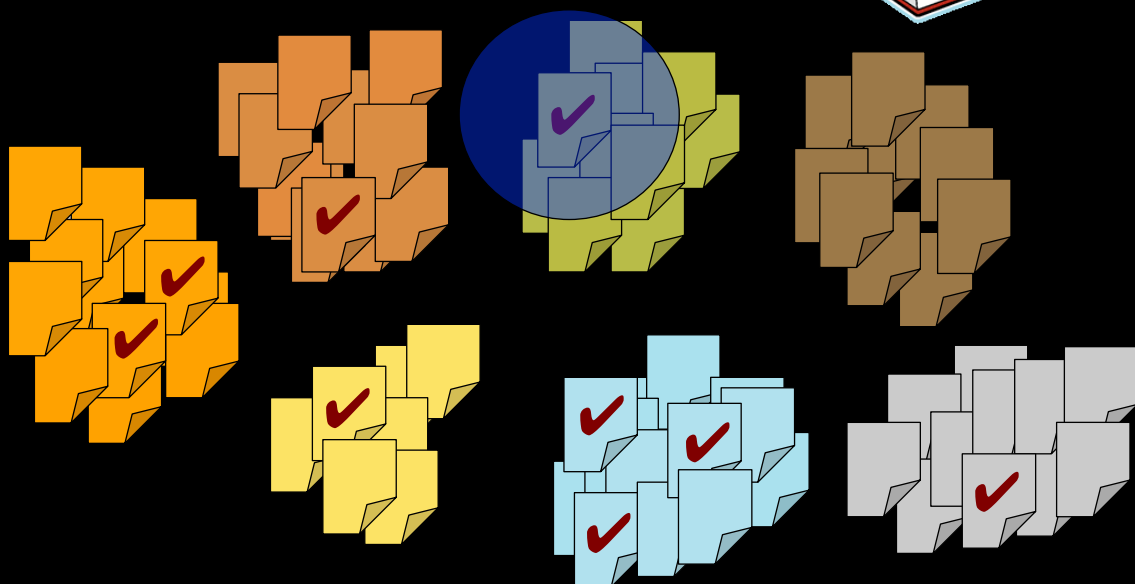


Key works! Even better!

75

Review

3. Analyzing

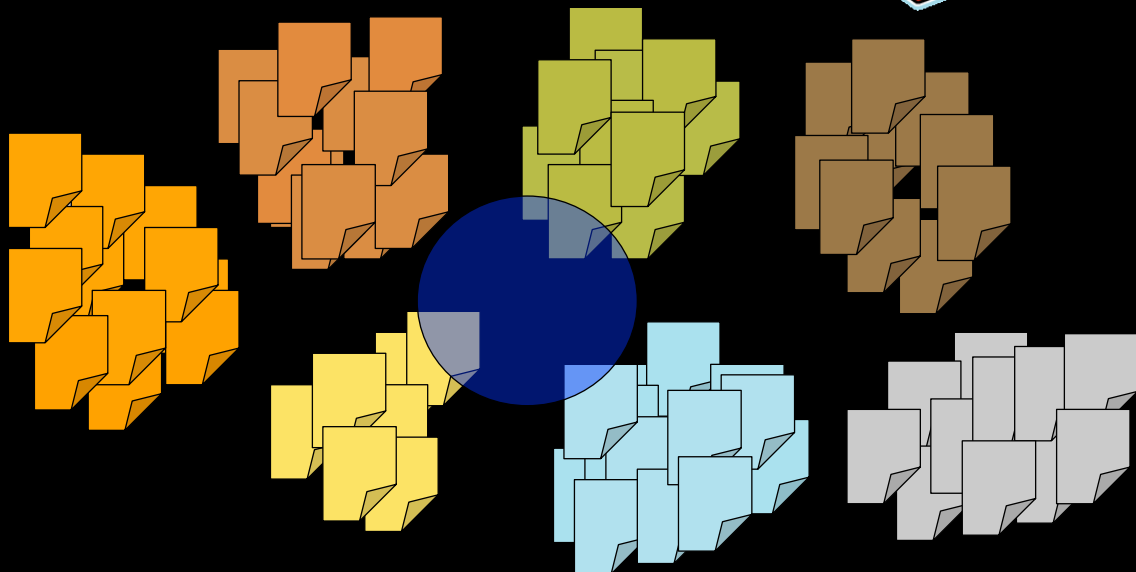


Oh no! What I wanted to do has already been done!

76

Review

3. Analyzing

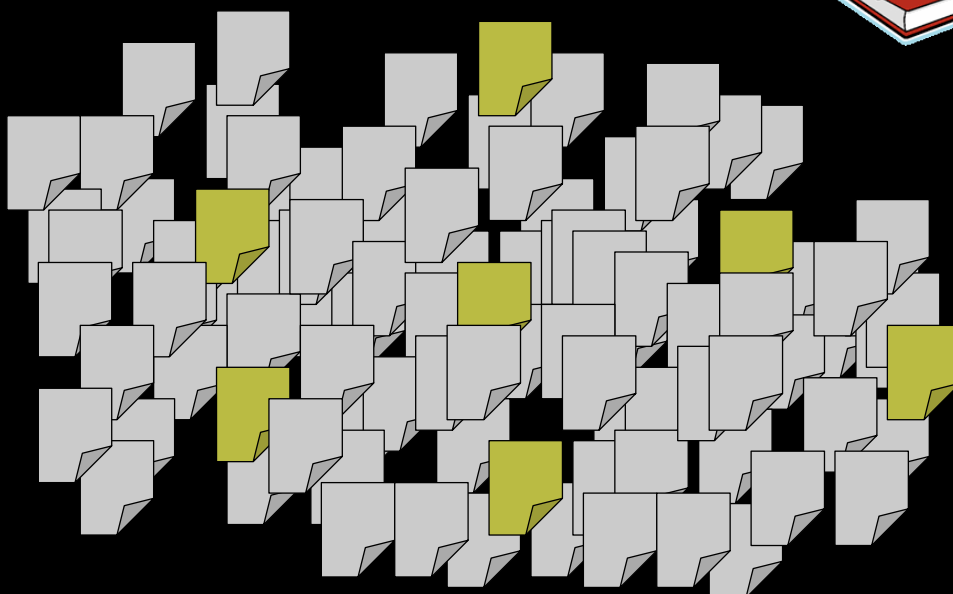


Hey, this approach has never been used?!?

77

Review

3. Analyzing

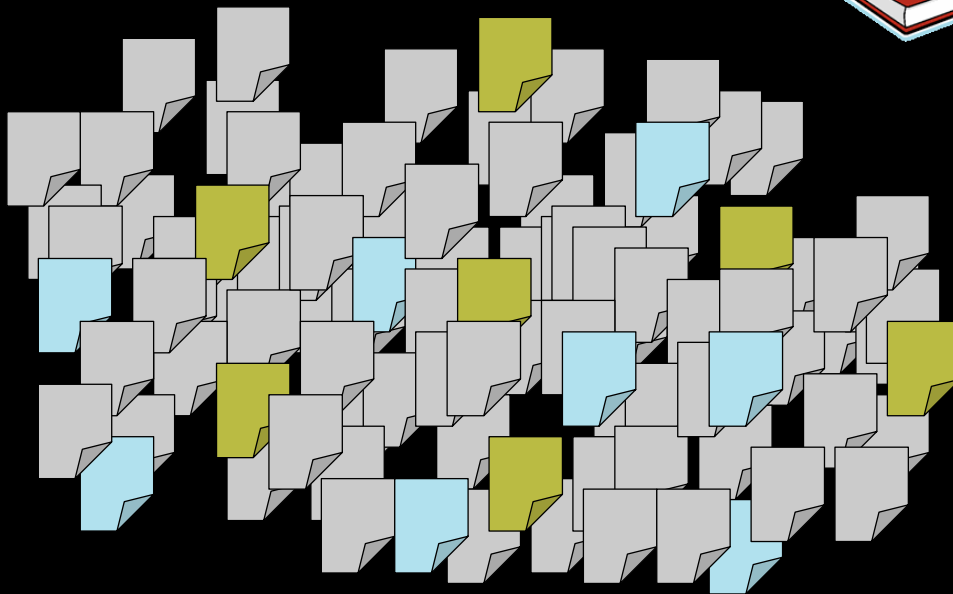


These works make the same assumptions

78

Review

3. Analyzing

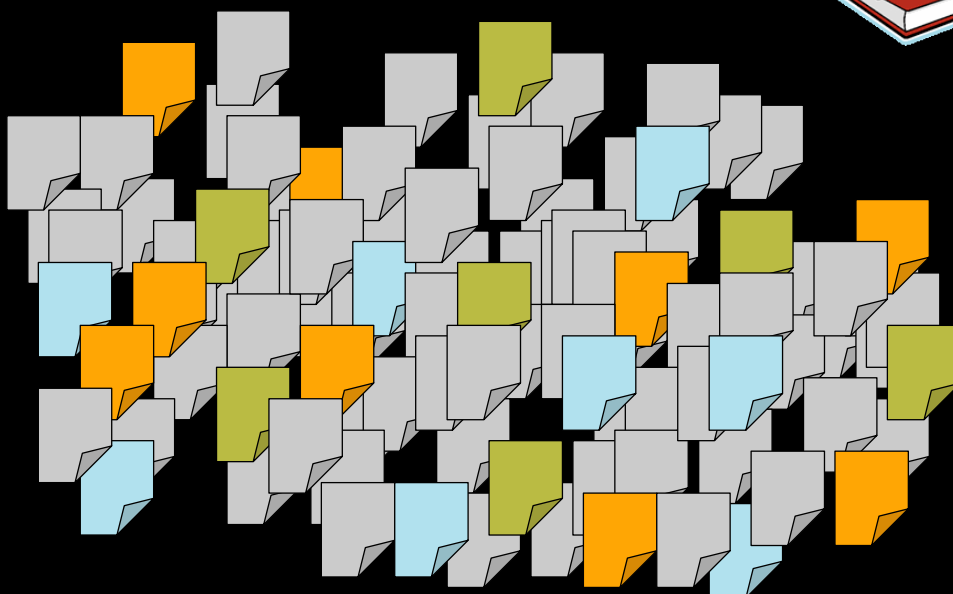


Same other assumptions

79

Review

3. Analyzing

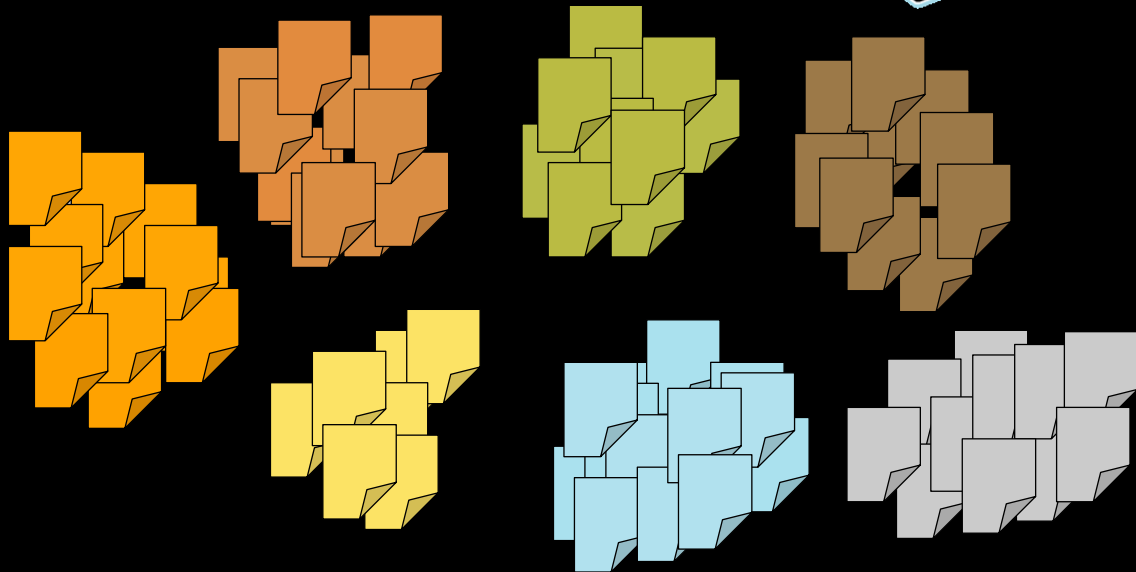


And again

80

Review

3. Analyzing

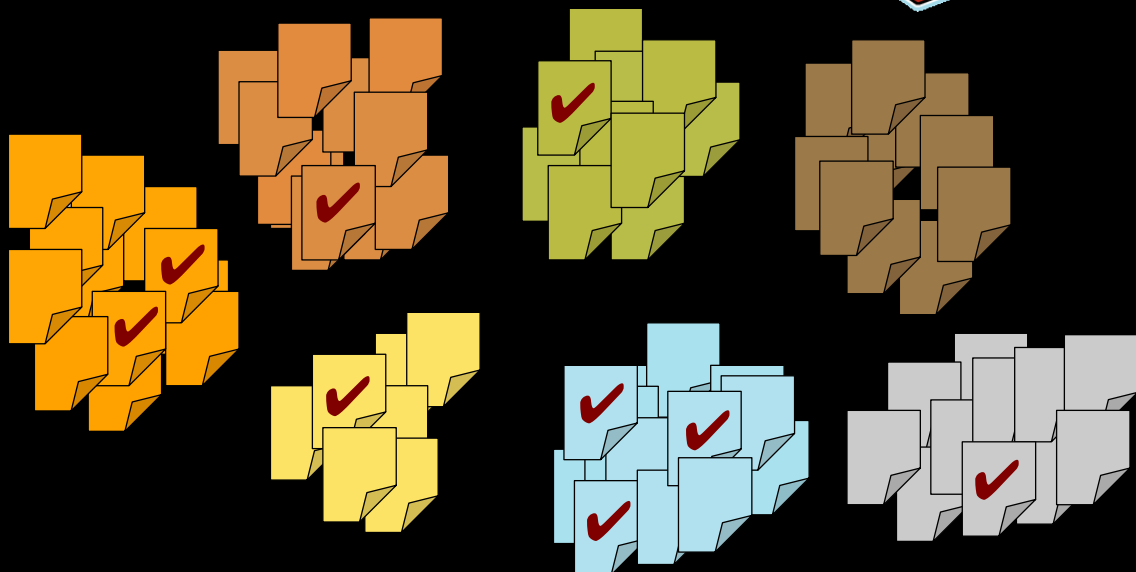


Better!

81

Review

3. Analyzing

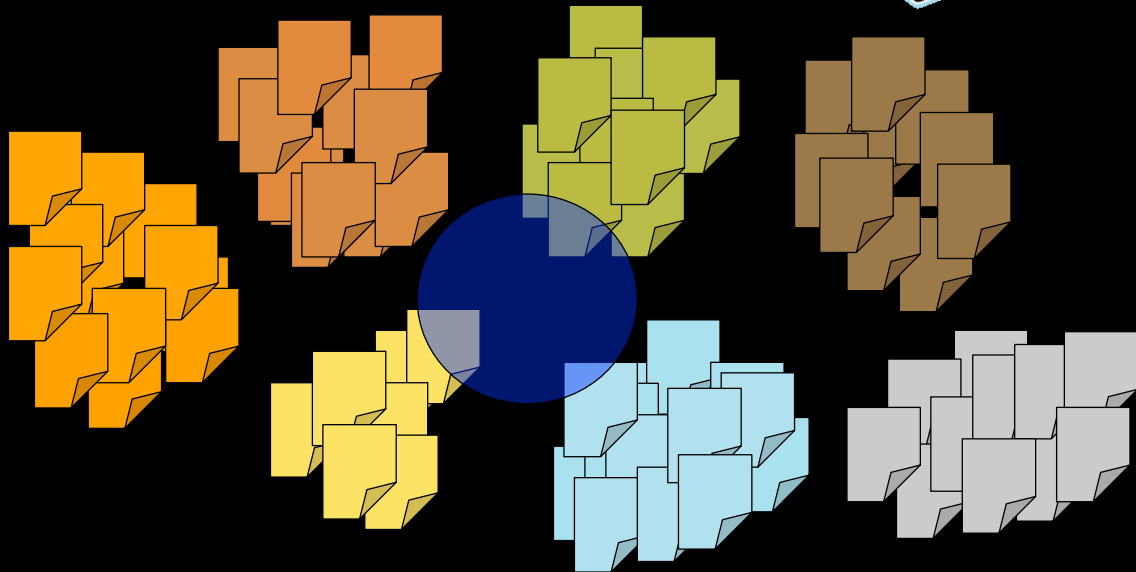


Key works! Even better!

82

Review

3. Analyzing

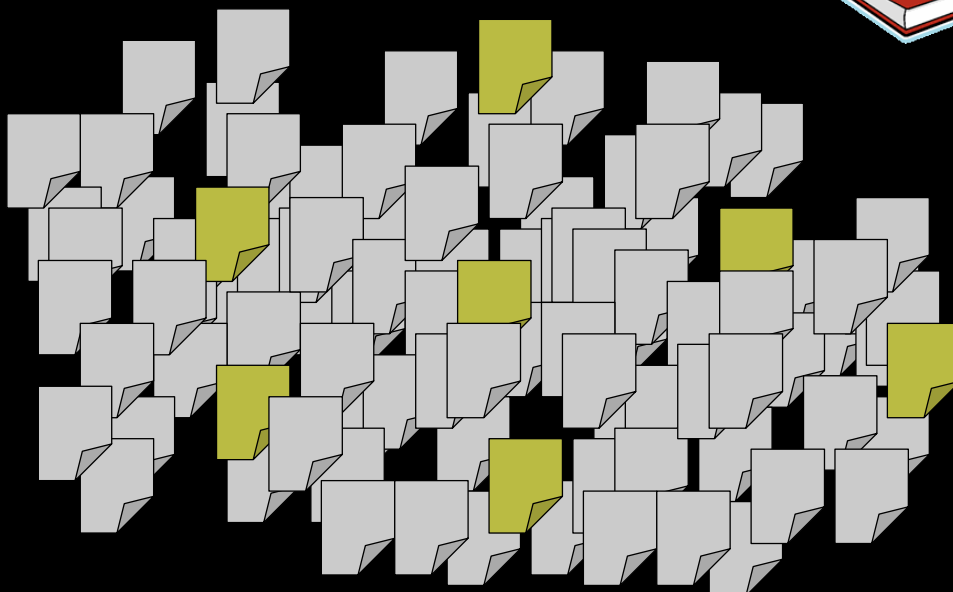


These assumptions never considered?!?

83

Review

3. Analyzing

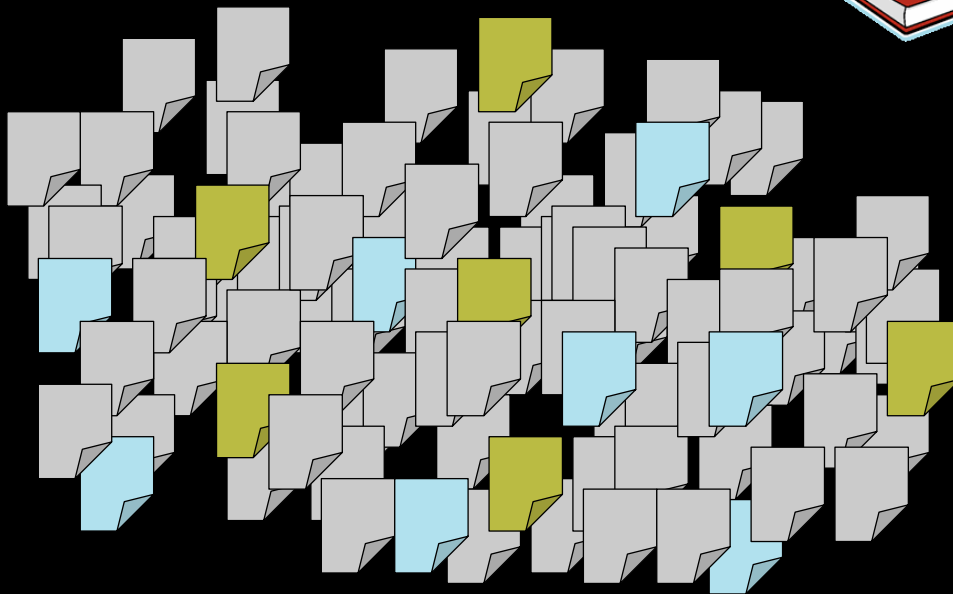


These works have the same weaknesses

84

Review

3. Analyzing

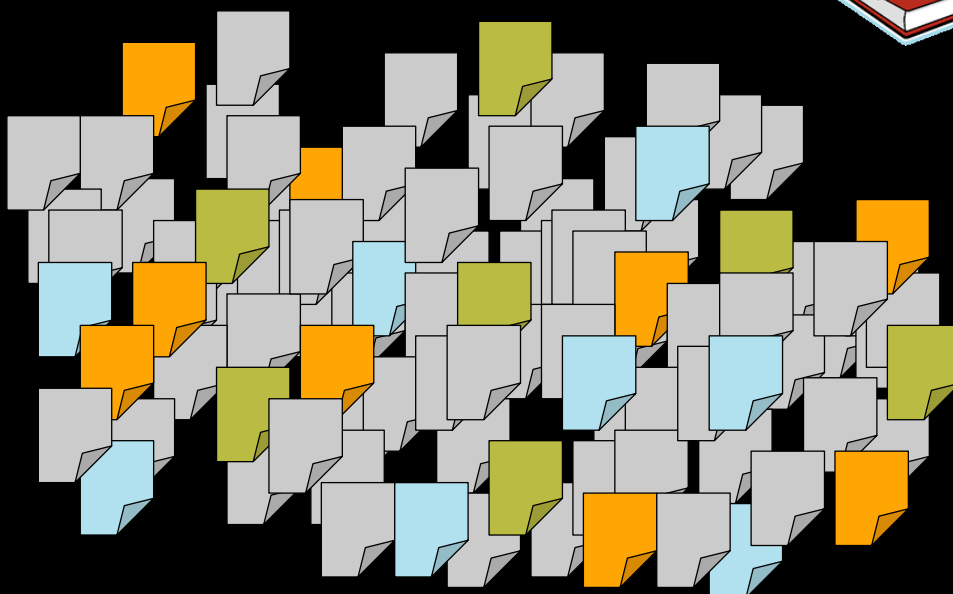


Same other weaknesses

85

Review

3. Analyzing

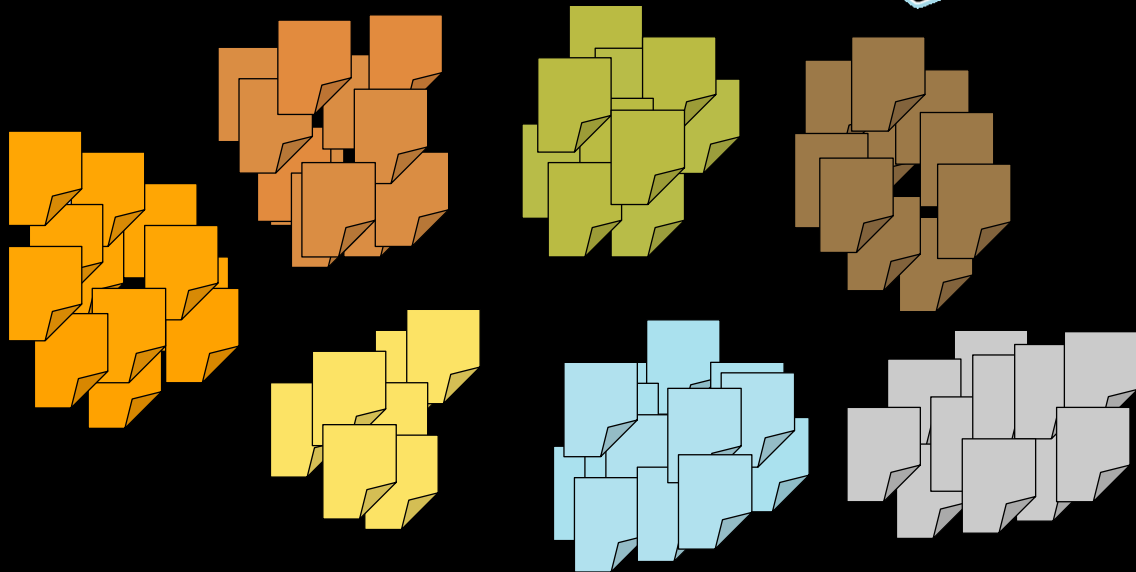


And again

86

Review

3. Analyzing



Better!

87

Review

4. Writing



A) Introduction

- topic, significance
[organization of the review]

B) Body

- studies are evaluated, compared, contrasted

C) Conclusion

- status of knowledge, shortcomings, gaps
[how your project relates to previous work]

D) References

88

Introduction
Literature
Review
Tools
Conclusion



89

Tools
Search



- Inspec
- CiteSeer^x
- Google Scholar

90

Tools Search



UNIVERSITY
of GUELPH

you and your **Library**

CHANGING LIVES
IMPROVING LIFE

Journal Articles

[Library](#) > [Resources](#) > [Journal Articles](#)

[Journal Articles Home](#)

[Get it! Service FAQ](#)

[E-Journals List](#)

[Current Awareness
Services](#)

Find Journal Articles

Search Specific Databases

This service is for more specialized searches.

Any of these words in the title [Go](#)

91

Tools Search



UNIVERSITY
of GUELPH

you and your **Library**

CHANGING LIVES
IMPROVING LIFE

Journal Articles

[Library](#) > [Resources](#) > [Journal Articles](#)

[Journal Articles Home](#)

[Get it! Service FAQ](#)

[E-Journals List](#)

[Current Awareness
Services](#)

Find Journal Articles

The Results

- [INSPEC \(via Engineering Village 2\)](#)
[physics, electrical & computing engineering]
Coverage: 1969 to present

92

Tools Search



Engineering Village Search History - Selected Records - My Profile - My Alerts [End Session](#)

Tags + Groups Easy Search Quick Search Expert Search Thesaurus Ask an Expert Help

Databases

- Compendex**
Compendex is the most comprehensive bibliographic database...
- GeoBase**
GeoBase® is a multidisciplinary database of indexed...
- Inspec**
Inspec includes bibliographic citations and indexed...

Personal Account

[Register](#) or Login:

Username:

Password:

SELECT DATABASE

☐ All ☐ Compendex ☒ Inspec ☐ GeoBase ?

SEARCH FOR

FACE? RECOGN*

AND

AND

SEARCH IN

All fields

All fields

All fields

LIMIT BY

All document types

All treatment types

All disciplines

All Languages

1969 TO 2008

1 Updates ?

SORT BY

☒ Relevance ? ☐ Publication year

☐ Autostemming off ?

Search **Reset**

93

Tools Search



Engineering Village Search History - Selected Records - My Profile - My Alerts [End Session](#)

Tags + Groups Easy Search Quick Search Expert Search Thesaurus Ask an Expert Help

Databases

- Compendex**
Compendex is the most comprehensive bibliographic database...
- GeoBase**
GeoBase® is a multidisciplinary database of indexed...
- Inspec**
Inspec includes bibliographic citations and indexed...

Personal Account

[Register](#) or Login:

Username:

Password:

SELECT DATABASE

☐ All ☐ Compendex ☒ Inspec ☐ GeoBase ?

SEARCH FOR

FACE? RECOGN*

AND

AND

SEARCH IN

All fields

All fields

Subject/Title/Abstract

Abstract

Author

Author affiliation

SORT BY

☒ Title

Classification code

CODEN

Conference information

ISSN

Publisher

Serial title

Patent number

Filing date

Patent issue date

Country of application

Material Identity Number

Inspec controlled term

Country of origin

Limit By

All document types

All treatment types

All disciplines

All Languages

1969 TO 2008

1 Updates ?

Search **Reset**

94

Tools Search



Engineering Village Search History - Selected Records - My Profile - My Alerts [End Session](#)

Tags + Groups Easy Search Quick Search Expert Search Thesaurus Ask an Expert Help

Databases

- Compendex**
Compendex is the most comprehensive bibliographic database...
- GeoBase**
GeoBase® is a multidisciplinary database of indexed...
- Inspec**
Inspec includes bibliographic citations and indexed...

Personal Account

[Register](#) or Login:

Username:

Password:

SELECT DATABASE

☐ All ☐ Compendex ☒ Inspec ☐ GeoBase ?

SEARCH FOR

FACE? RECOGN*

AND AND OR NOT

SEARCH IN

Title

All fields All fields

LIMIT BY

All document types All treatment types All disciplines All Languages

1969 TO 2008 1 Updates

SORT BY

☒ Relevance ☐ Publication year ☐ Autostemming off

Search **Reset**

95

Tools Search



Engineering Village Search History - Selected Records - My Profile - My Alerts [End Session](#)

Tags + Groups Easy Search Quick Search Expert Search Thesaurus Ask an Expert Help

Databases

- Compendex**
Compendex is the most comprehensive bibliographic database...
- GeoBase**
GeoBase® is a multidisciplinary database of indexed...
- Inspec**
Inspec includes bibliographic citations and indexed...

Personal Account

[Register](#) or Login:

Username:

Password:

SELECT DATABASE

☐ All ☐ Compendex ☒ Inspec ☐ GeoBase ?

SEARCH FOR

FACE? RECOGN*

AND **CASTRILLON** AND

SEARCH IN

Title

All fields All fields

LIMIT BY

All document types All treatment types All disciplines All Languages

1969 TO 2008 1 Updates

SORT BY

☒ Relevance ☐ Publication year ☐ Autostemming off

Search **Reset**

96

Tools Search



Engineering Village Search History - Selected Records - My Profile - My Alerts [End Session](#)

Tags + Groups Easy Search Quick Search Expert Search Thesaurus Ask an Expert Help

Databases

- Compendex**
Compendex is the most comprehensive bibliographic database...
- GeoBase**
GeoBase® is a multidisciplinary database of indexed...
- Inspec**
Inspec includes bibliographic citations and indexed...

Personal Account

[Register](#) or Login:

Username:

Password:

SELECT DATABASE

☐ All ☐ Compendex ☒ Inspec ☐ GeoBase ?

SEARCH FOR

FACE? RECOGN*

AND **CASTRILLON**

AND

LIMIT BY

All document types

All treatment types

All disciplines

All Languages

1969 TO 2008

☐ 1 Updates ?

SEARCH IN

Title

All fields

Subject/Title/Abstract

Abstract

Author

Author affiliation

Title

Classification code

CODEN

Conference information

ISSN

Publisher

Serial title

Patent number

Filing date

Patent issue date

Country of application

Material Identity Number

Inspec controlled term

Sort

Relevance ? Publication year

Autostemming off ?

Search **Reset**

97

Tools Search



Engineering Village Search History - Selected Records - My Profile - My Alerts [End Session](#)

Tags + Groups Easy Search Quick Search Expert Search Thesaurus Ask an Expert Help

Databases

- Compendex**
Compendex is the most comprehensive bibliographic database...
- GeoBase**
GeoBase® is a multidisciplinary database of indexed...
- Inspec**
Inspec includes bibliographic citations and indexed...

Personal Account

[Register](#) or Login:

Username:

Password:

SELECT DATABASE

☐ All ☐ Compendex ☒ Inspec ☐ GeoBase ?

SEARCH FOR

FACE? RECOGN*

AND **CASTRILLON**

AND

LIMIT BY

All document types

All document types

Journal article

Conference article

Conference proceeding

Monograph chapter

Monograph review

Report chapter

Report review

Dissertation

Unpublished paper

Patents (before 1977)

SEARCH IN

Title

Author

All fields

Sort

Relevance ? Publication year

Autostemming off ?

Search **Reset**

98

Tools Search



Engineering Village Search History - Selected Records - My Profile - My Alerts [End Session](#)

Tags + Groups Easy Search Quick Search Expert Search Thesaurus Ask an Expert Help

Databases

- Compendex**
Compendex is the most comprehensive bibliographic database...
- GeoBase**
GeoBase® is a multidisciplinary database of indexed...
- Inspec**
Inspec includes bibliographic citations and indexed...

Personal Account

[Register](#) or Login:
Username:
Password:

SELECT DATABASE

☐ All ☐ Compendex ☒ Inspec ☐ GeoBase ?

SEARCH FOR

FACE? RECOGN*

AND **CASTRILLON**

AND

SEARCH IN

Title

Author

All fields

LIMIT BY

Journal

All treatment types

All disciplines

All Languages

All Languages

English

Chinese

French

German

Italian

Japanese

Russian

2008

SORT BY

☒ Relevance ? ☐ Publication year

☐ Autostemming off ?

Search **Reset**

99

Tools Search



Engineering Village Search History - Selected Records - My Profile - My Alerts [End Session](#)

Tags + Groups Easy Search Quick Search Expert Search Thesaurus Ask an Expert Help

Refine Search **New Search**

Results Manager

Select all on page - Select range: to [Go](#) - [Clear all on page](#) - [Clear all selections](#)

Choose format: ☒ Citation ☐ Abstract ☐ Detailed record ☒

Clear selected records on new search

[View Selections](#) [E-Mail](#) [Print](#)

[Download](#) [Save to Folder](#)

Search Results

1. **Learning to recognize faces by successive meetings**
[Castrillon-Santana, M.](#) (IUSIANI, Univ. de Las Palmas de Gran Canaria, Spain);
[Deniz-Suarez, O.](#); [Lorenzo-Navarro, J.](#); [Hernandez-Tejera, M.](#) **Source:** *Journal of Multimedia*, v 1, n 7, Oct. 2006, p 8 pp.
Database: Inspec

[Abstract](#) - [Detailed](#) - [Guelph](#)

Refine Results ?Help

[Include](#) [Exclude](#)

Author

- ☐ Castrillon, Santana M. (1)
- ☐ Deniz, Suarez O. (1)
- ☐ Hernandez, Tejera M. (1)
- ☐ Lorenzo, Navarro J. (1)

Author affiliation

- ☐ Iusiani, Univ. De Las Palmas De Gran Canaria (1)

Controlled vocabulary

- ☐ Face Recognition (1)
- ☐ Image Classification (1)
- ☐ Image Registration (1)
- ☐ Image Sequences (1)
- ☐ Learning (Artificial Intelligence) (1)

100



Paper not available from online archives?

- Go to the library
- Request an interlibrary loan
- Email the author(s)
- Ask someone who may have (access to) it



I. INTRODUCTION

In [1], it was shown that...

REFERENCES

[1] James Smith, Mary Johnson, Robert Williams,
“Write an awesome literature review”. International
Journal of Educational Progress, 2008, 3:123-129

.....



1. INTRODUCTION

In [34], it was shown that...

REFERENCES

.....
[34] J. Smith, M. Johnson, and R. Williams, "Write an Awesome Literature Review," *Int. J. of Educational Progress*, vol. 3, pp. 123-29, 2008.
.....



A. INTRODUCTION

In Smith et al. (2008), it was shown that...

REFERENCES

.....
Smith, J., Johnson, M. and Williams, R., 2008,
Write an awesome literature review. *Int. J.
of Educational Progress*, vol. 3, pp. 123-29.
.....

Tools Management



Formatting is too much work!
Use bibliographic management software to:

- organize your sources;
- create bibliographies;
- add in-text citations to your documents in many different styles.

105

Tools Management – BibTeX



- Separates bibliographic information from presentation of information
- Used mostly with LaTeX documents
- Complemented by third-party tools
 - BibShare (BibTeX with MS Word)
 - BibDesk (BibTeX on Mac OS X)

106

Tools

Management – BibTeX



entry type citation key

```
@article{smithJW08,  
  author = "James Smith and Mary Johnson  
           and Robert Williams",  
  title  = "Write and awesome literature review",  
  journal = "International Journal of  
           Educational Progress",  
  volume = "3",  
  pages  = "123-129",  
  year   = "2008"  
}
```

field name

field value

myRefs.bib

107

Tools

Management – BibTeX



```
\section{Introduction}
```

```
In \cite{smithJW08}, it was shown that...
```

```
\bibliographystyle{someStyle}  
\bibliography{myRefs}
```

```
% file someStyle.bst  
% file myRefs.bib
```

myDocument.tex

108

Tools

Management – Other Tools



- BibDesk
- EndNote
- EndNote Web
- Mendeley
- RefWorks
- Zotero

109

Introduction
Literature
Review
Tools
Conclusion



110

Conclusion

4 Tasks



1. Collecting
2. Screening
3. Analyzing
4. Writing

111

Conclusion

3 Pieces of Advice



- Do not try to read every paper
(scan through quickly)
- Do not try to understand everything
(focus on key ideas, concepts, principles)
- Keep a bibliographic record
(with reference and notes)

112

Conclusion

2 Other Pieces of Advice



- Read others' literature reviews
- Be flexible about topic, breadth and depth
(adapt to time, page limit, findings)

113

Conclusion

1 Warning



A literature review is NOT a “laundry list” of everything written on a topic, where each work gets its summary paragraph

Thanks!



115

Thanks!
Acknowledgment



David Parkinson
University of Sussex (United Kingdom)

Katja Hofmann
University of Amsterdam (The Netherlands)

116

Thanks!
Questions?

