

Research Methodology

Step 4: How to find useful sources
(Literature Review/Related works)

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Outlines:

- What is Literature Review?
- What is the Logical Method for LR/RW?
- Methodology for a good RW/LR
- Mother, Father, and the youngest Child
- Where can search for high impact papers?
- How to find Mother, Father and the youngest child paper?
- How can summarize a paper and write about it in LR?
- How can write the last part of a LR?



What is Literature Review?

Is a **select analysis of existing research**
which is **relevant to your topic**

Is an **evaluative report of information found**
in the literature **related to your selected**
area of study

Is **not a straightforward summary of everything** you have read on the topic

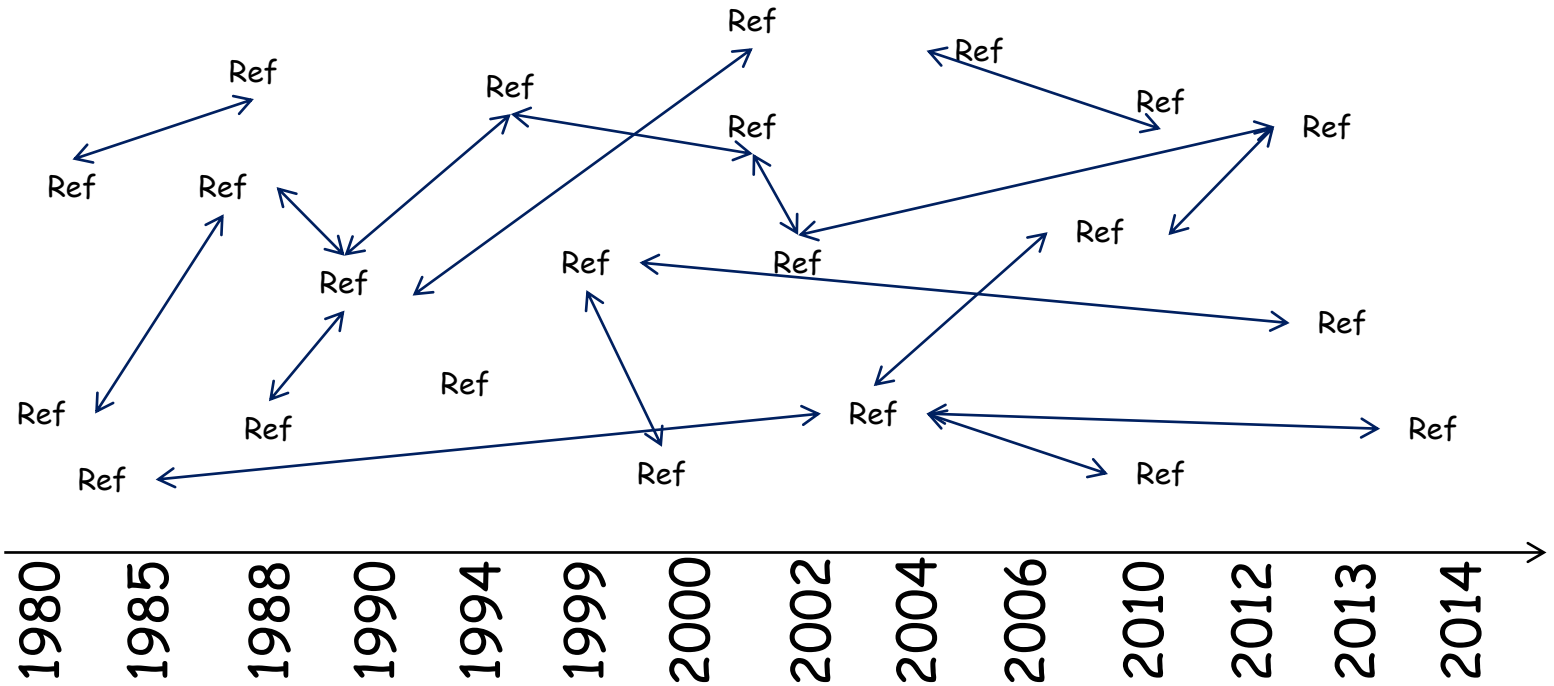
Is **not a chronological description of what was discovered** in your field



What is Literature Review?

- Understand and critically analyse the background research
- Select and source the information that is necessary to develop a context for your research
- Shows how your investigation relates to previous research
- Provides evidence that may help explain your findings later

A map of LR/RW...



Methodology for a good RW/LR





Methodology for RW/LR

- **Chronological** (progression of time: Father...Mother...Children)
 - Write about the materials above according to when they were published
- **Thematic**
 - organized around a topic or issue
- **Methodological**
 - focuses on the "methods" of the researcher or writer

Please remember that :

Keep your own voice

- While the literature review presents others' ideas, your voice (the writer's) should remain front and centre

Be selective

- Select only the most important points in each source to highlight in the review



Mother, Father, and the youngest Child



Just Remember...

"Scientists are rated by what they finish, not by what they attempt"

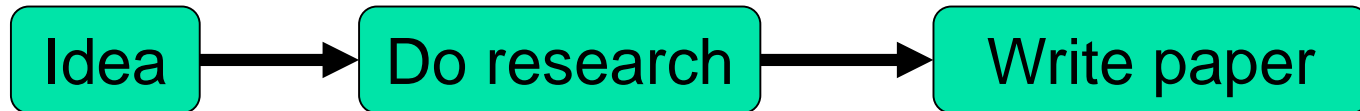


Writing your paper_(s) in the way

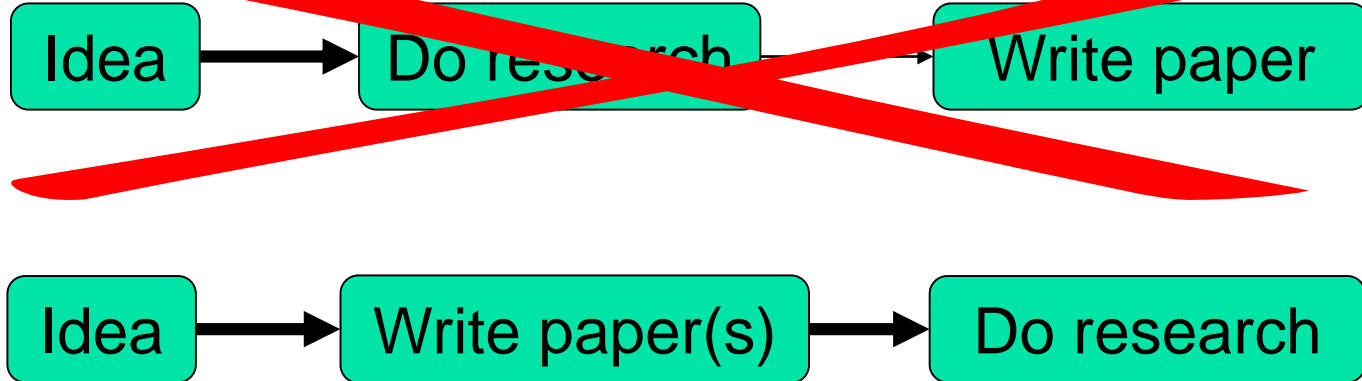
- You will get more brownie points (more papers accepted etc)
- Your ideas will have more impact
- You will have better ideas



Writing papers: model 1



Writing papers: model 2



- Forces us to be clear, focused
- Crystallises what we don't understand
- Opens the way to dialogue with others: reality check, and collaboration



Where can search for high
impact papers?



search for high impact papers

Google Scholar

Web of Knowledge

Science Direct

Scopus

Springer Link

Elsevier

Scientific.net

Digital Library

ACM

IEEE

Index to Thesis

ProQuest

....

Google Scholar... (Scholar.google.com)

scholar.google.com/schhp?hl=en

Web Images More... a.habibi.l@gmail.com

My library My Citations My updates Alerts Metrics Settings

Google scholar

Articles (include patents) Case law

My updates: recommended based on My Citations Learn more

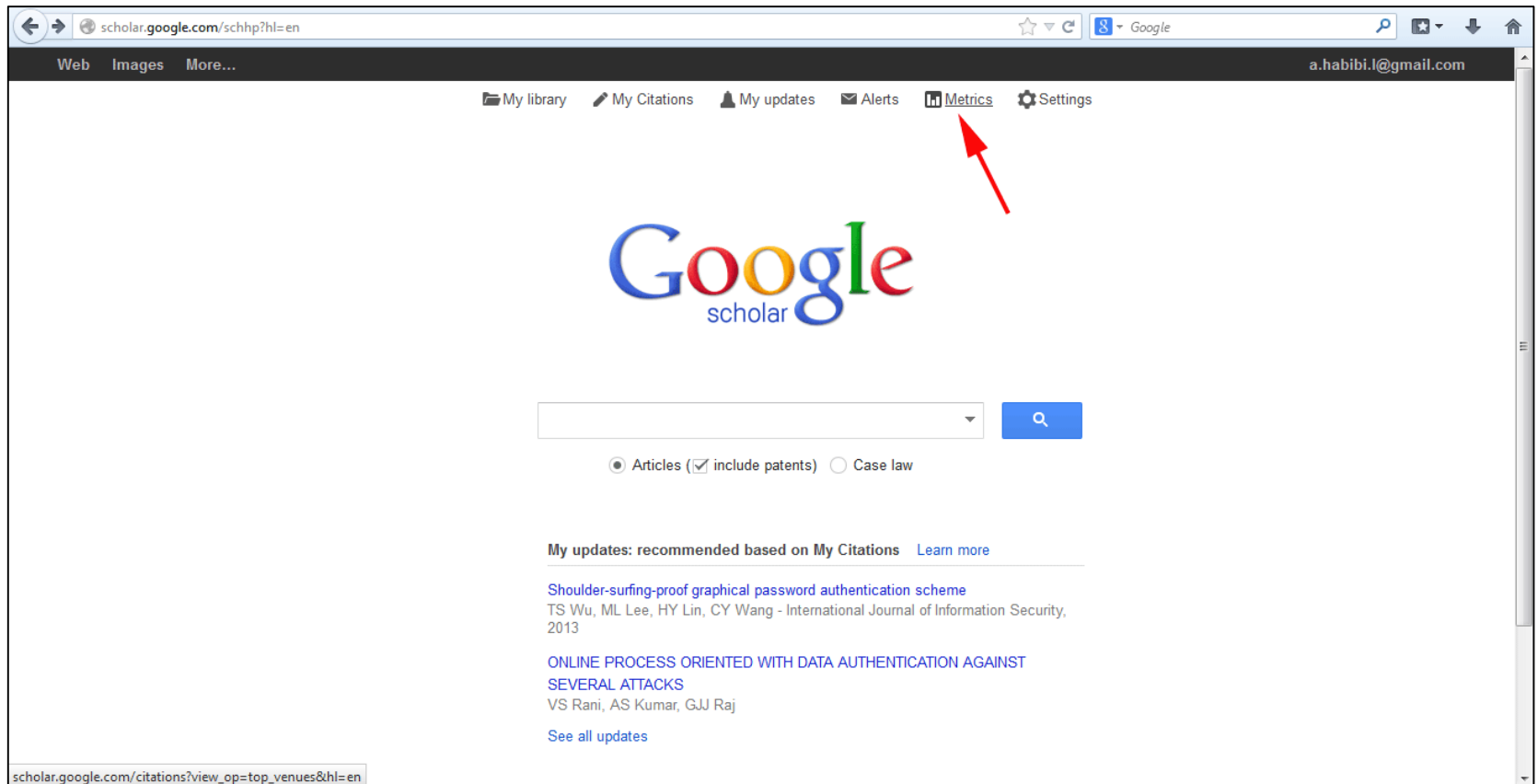
Shoulder-surfing-proof graphical password authentication scheme
TS Wu, ML Lee, HY Lin, CY Wang - International Journal of Information Security, 2013

ONLINE PROCESS ORIENTED WITH DATA AUTHENTICATION AGAINST SEVERAL ATTACKS
VS Rani, AS Kumar, GJJ Raj

See all updates

scholar.google.com/citations?view_op=top_venues&hl=en

Google Scholar...



The screenshot shows the Google Scholar homepage in a browser window. The address bar displays 'scholar.google.com/schhp?hl=en'. The navigation bar includes links for 'My library', 'My Citations', 'My updates', 'Alerts', 'Metrics', and 'Settings'. A red arrow points to the 'Metrics' link. The main content area features the Google Scholar logo, a search input field, and radio buttons for 'Articles (include patents)' and 'Case law'. Below the search area, there is a section for 'My updates: recommended based on My Citations' with a 'Learn more' link. Two search results are visible: 'Shoulder-surfing-proof graphical password authentication scheme' by TS Wu, ML Lee, HY Lin, and CY Wang, and 'ONLINE PROCESS ORIENTED WITH DATA AUTHENTICATION AGAINST SEVERAL ATTACKS' by VS Rani, AS Kumar, and GJJ Raj. A 'See all updates' link is also present.

scholar.google.com/schhp?hl=en

Web Images More... a.habibi.l@gmail.com

My library My Citations My updates Alerts Metrics Settings

Google scholar

Articles (include patents) Case law

My updates: recommended based on My Citations Learn more

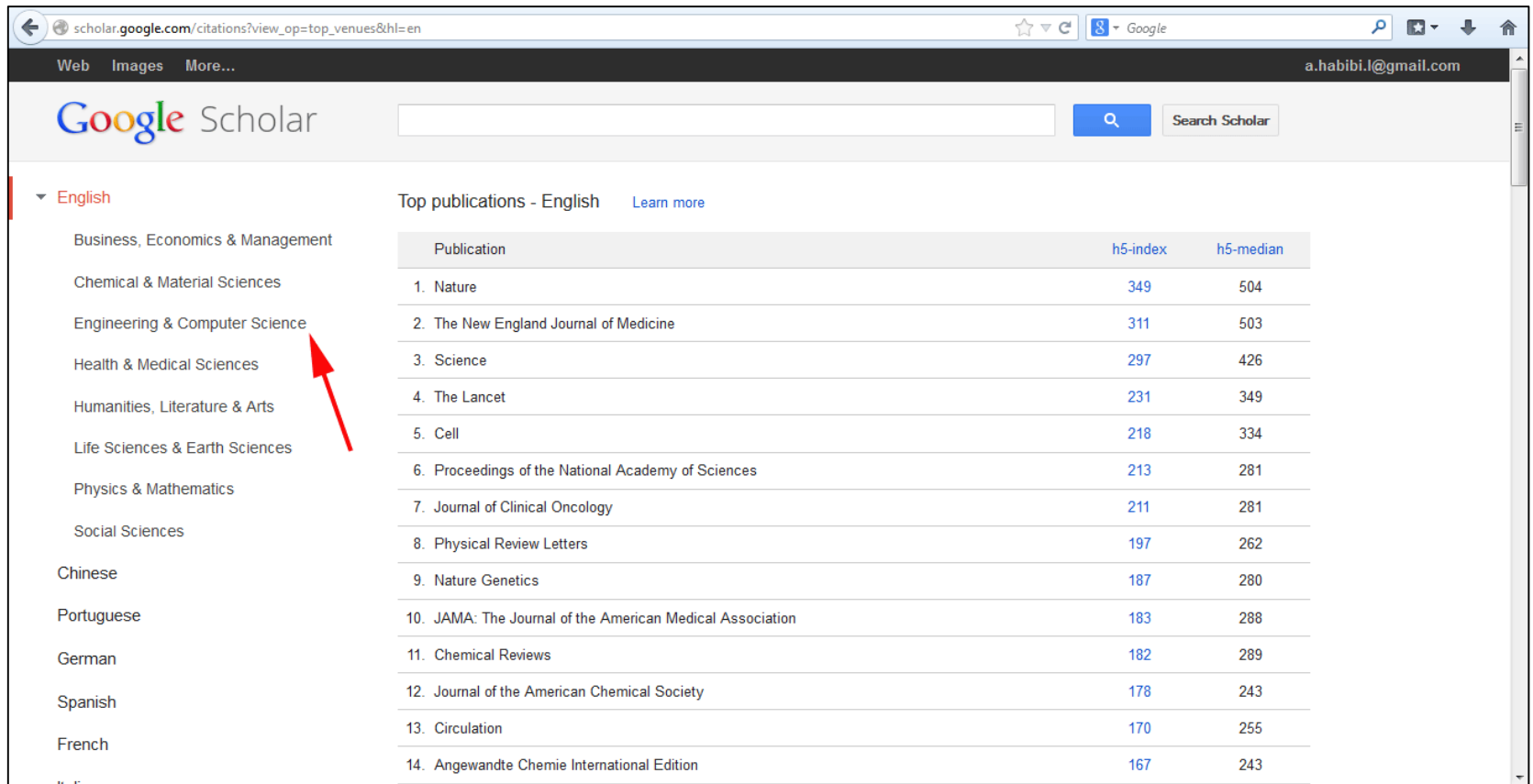
Shoulder-surfing-proof graphical password authentication scheme
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scholar.google.com/citations?view_op=top_venues&hl=en

Google Scholar...



The screenshot shows the Google Scholar interface. The browser address bar displays 'scholar.google.com/citations?view_op=top_venues&hl=en'. The page title is 'Google Scholar'. A search bar is present with a 'Search Scholar' button. On the left, a list of subject categories is shown under the 'English' filter. A red arrow points to 'Engineering & Computer Science'. The main content area displays 'Top publications - English' with a 'Learn more' link. Below this is a table listing the top 14 journals with their h5-index and h5-median values.

Publication	h5-index	h5-median
1. Nature	349	504
2. The New England Journal of Medicine	311	503
3. Science	297	426
4. The Lancet	231	349
5. Cell	218	334
6. Proceedings of the National Academy of Sciences	213	281
7. Journal of Clinical Oncology	211	281
8. Physical Review Letters	197	262
9. Nature Genetics	187	280
10. JAMA: The Journal of the American Medical Association	183	288
11. Chemical Reviews	182	289
12. Journal of the American Chemical Society	178	243
13. Circulation	170	255
14. Angewandte Chemie International Edition	167	243

Google Scholar...

The screenshot shows the Google Scholar website interface. On the left, there is a navigation menu with the Google logo and a list of disciplines. The 'Engineering & Computer Science' category is highlighted, and a red arrow points to 'Computer Security & Cryptography'. On the right, there is a search bar and a table with two columns: 'h5-index' and 'h5-median'. The table lists various disciplines and their corresponding values.

	h5-index	h5-median
Architecture	163	215
Artificial Intelligence	149	212
Automation & Control Theory	145	232
Aviation & Aerospace Engineering	125	179
Bioinformatics & Computational Biology	121	191
Biomedical Technology	112	176
Biotechnology	109	136
Ceramic Engineering	108	149
Civil Engineering	106	174
Combustion & Propulsion	104	155
Computational Linguistics	104	135
Computer Graphics	100	136
Computer Hardware Design	97	148
Computer Networks & Wireless Communication	94	137
Computer Security & Cryptography		
Computer Vision & Pattern Recognition		
Engineering & Computer Science (general)		
Environmental & Geological Engineering		
Evolutionary Computation		
Food Science & Technology		
Fuzzy Systems		
Game Theory and Decision Science		
Human Computer Interaction		
Information Theory		
Library & Information Science		
Manufacturing & Machinery		
Materials Engineering		
Mechanical Engineering		
Medical Informatics		
Metallurgy		
Microelectronics & Electronic Packaging		
Mining & Mineral Resources		
Molecular Modeling		
Oil, Petroleum & Natural Gas		
Operations Research		
Plasma & Fusion		
Power Engineering		
Quality & Reliability		
Radar, Positioning & Navigation		
Real-time & Embedded Systems		
Remote Sensing		
Robotics		
Signal Processing		
Software Systems		
Structural Engineering		
Sustainable Energy		
Technology Law		
Textile Engineering		
Theoretical Computer Science		
Transportation		

Google Scholar...

The screenshot shows the Google Scholar interface. The browser address bar displays the URL: scholar.google.com/citations?view_op=top_venues&hl=en&vq=eng_computersecuritycryptography. The page title is "Top publications - Computer Security & Cryptography". The left sidebar lists various academic disciplines, with "Computer Security & Cryptography" highlighted in red. The main content area displays a table of the top 14 publications, ranked by their h5-index and h5-median values.

Publication	h5-index	h5-median
1. ACM Symposium on Information, Computer and Communications Security	57	94
2. USENIX Security Symposium	48	78
3. IEEE Symposium on Security and Privacy	47	84
4. EUROCRYPT	43	71
5. Conference on Advances in cryptology	42	68
6. IEEE Transactions on Information Forensics and Security	39	63
7. ASIACRYPT	34	49
8. IEEE Transactions on Dependable and Secure Computing	31	46
9. Theory of Cryptography	30	64
10. Workshop on Cryptographic Hardware and Embedded Systems (CHES)	30	48
11. arXiv Cryptography and Security (cs.CR)	29	55
12. ACM Transactions on Information and System Security (TISSEC)	29	48
13. Public Key Cryptography	28	43
14. Fast Software Encryption (FSE)	28	40

How to find Mother, Father
and the youngest child
paper?

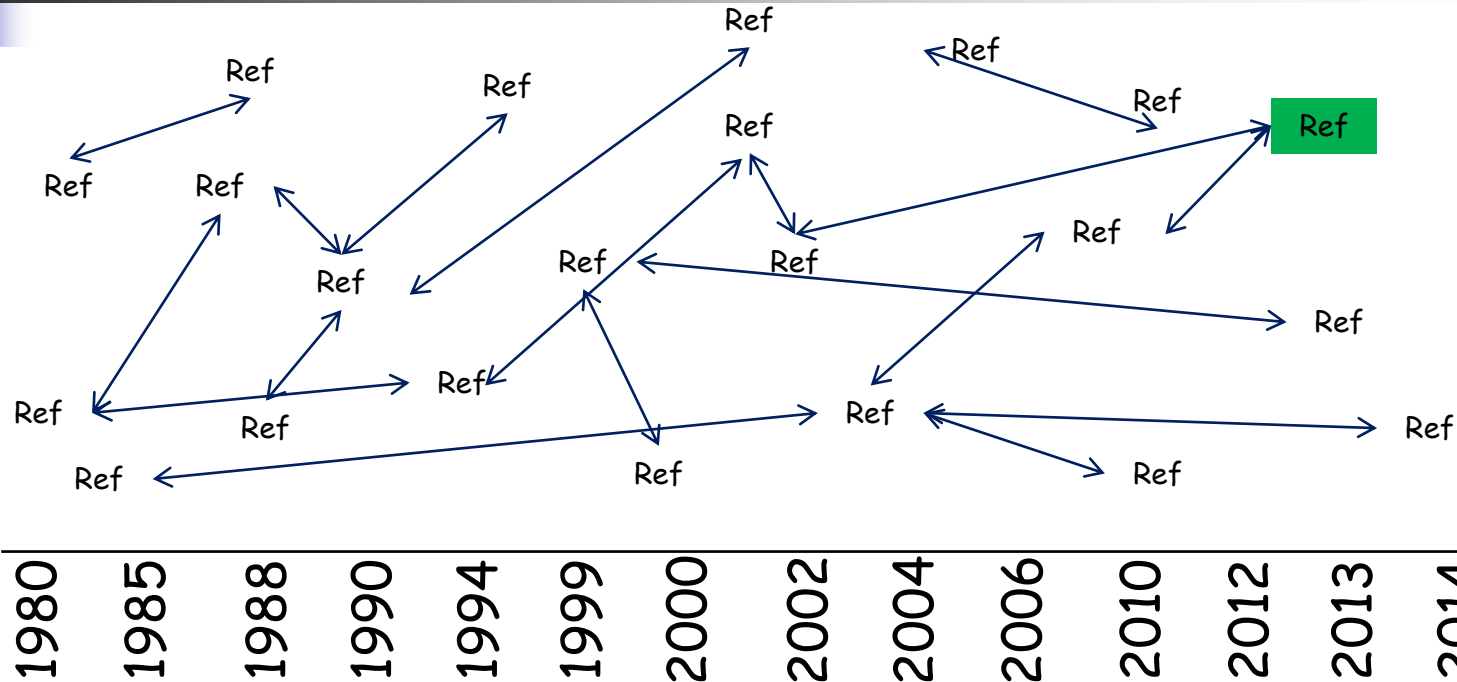


The LR / RW...

- Overview the articles
- Group the articles into categories
- Take notes:

No.	Date	Auth.	Prob.	Key.	Meth.	So.	Ana.	Fin.	F.W.
Ref 1									
Ref 2									
Ref 3									
Ref 4									
Ref 5									
Ref 6									

Mather paper



No.	Date	Auth.	Prob.	Key.	Meth.	So.	Ana.	Fin.	F.W.
Ref 1	2013								FW1
Ref 2	2013		FW2						FW1
Ref 3	2012		FW4						FW2
Ref 4	2010								FW3
Ref 5	2010								FW4
Ref 6	2009								FW3

you want to follow their FW as your problem



Mather paper

Title (1000 readers)

Abstract (4-5 sentences, 100 readers)

Keywords (5-6 words or phrases, 100 readers)

Introduction (1-1.5 page, 100 readers)

Related work (1-2 pages, 10 readers)

The problem (1 page, 10 readers)

Proposed idea (2 pages, 10 readers)

Details (2-3 pages, 3 readers)

Conclusions and **further work** (5-6 sentences-100 readers)

Acknowledgement

References

Mather paper -> Father Paper

Mother
Paper

[1] THORPE, J. & VAN OORSCHOT, P. C., 2008, 'Towards secure design choices for implementing graphical passwords', Computer Security Applications Conference, 20th Annual.

[2] ZHI, L., QIBIN, S., YONG, L. & GIUSTO, D. D., 2005, 'An Association-Based Graphical Password Design Resistant to Shoulder-Surfing Attack', IEEE International Conference on Multimedia and Expo (ICME).

[3] YOKOTA, K. & YONEKURA, T., 2006, 'A proposal of COMPASS (community portrait authentication system)', International Conference on Cyber worlds.

....

Xiaoyuan Suo, Ying Zhu and G. Scott. Owen, "Graphical Passwords: A Survey", Proceedings of the 21st Annual Computer Security Applications. IEEE. 463-472; 2005.

.....

Backward (s)

L. O'Gorman, "Comparing Passwords, Tokens, and Biometrics for User Authentication," Proc. IEEE, vol. 91, no. 12, pp. 2019-2020, Dec. 2003. [14]

Birget, J.C., D. Hong, and N. Memon. Graphical Passwords Based on Robust Discretization. IEEE Trans. Info. Forensics and Security, 1(3), September 2006.

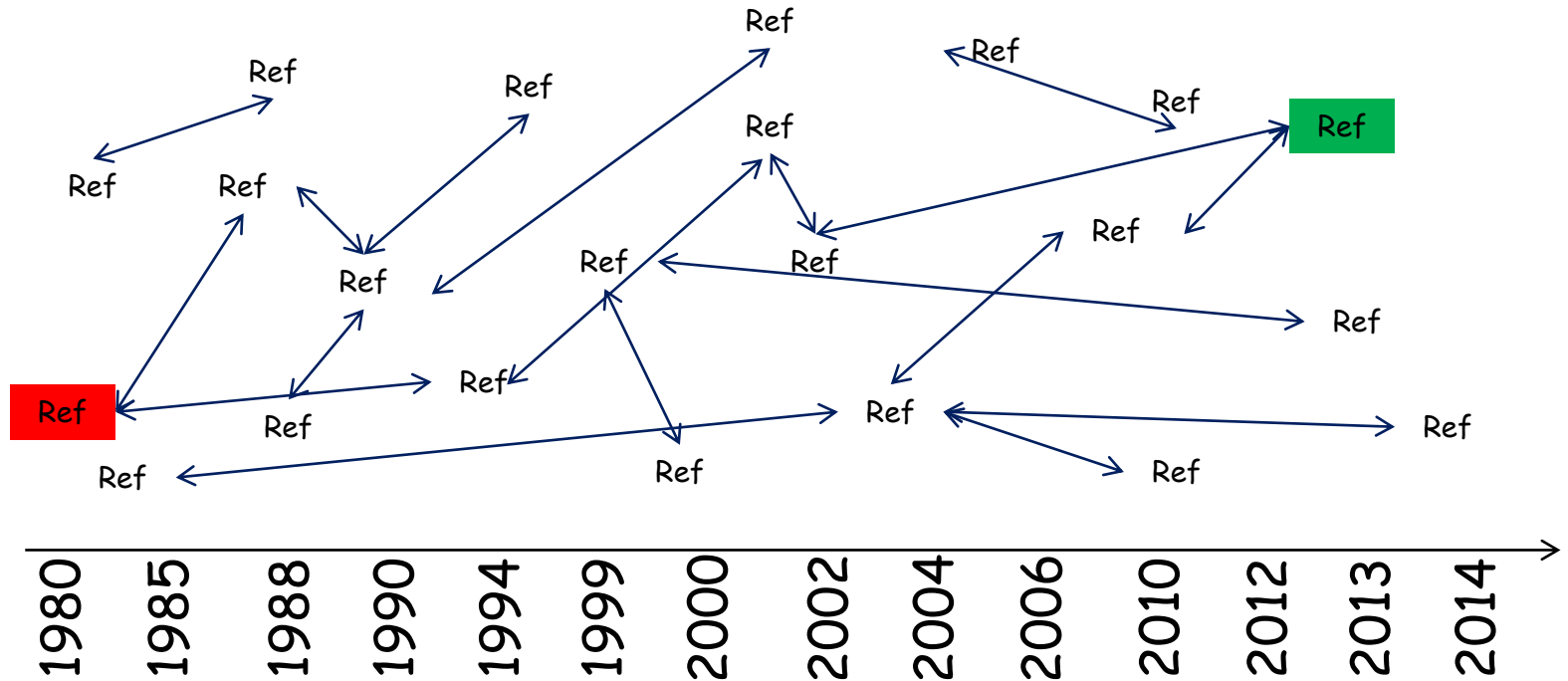
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Blonder, G.E. Graphical Passwords. United States Patent 5,559,961, 1996

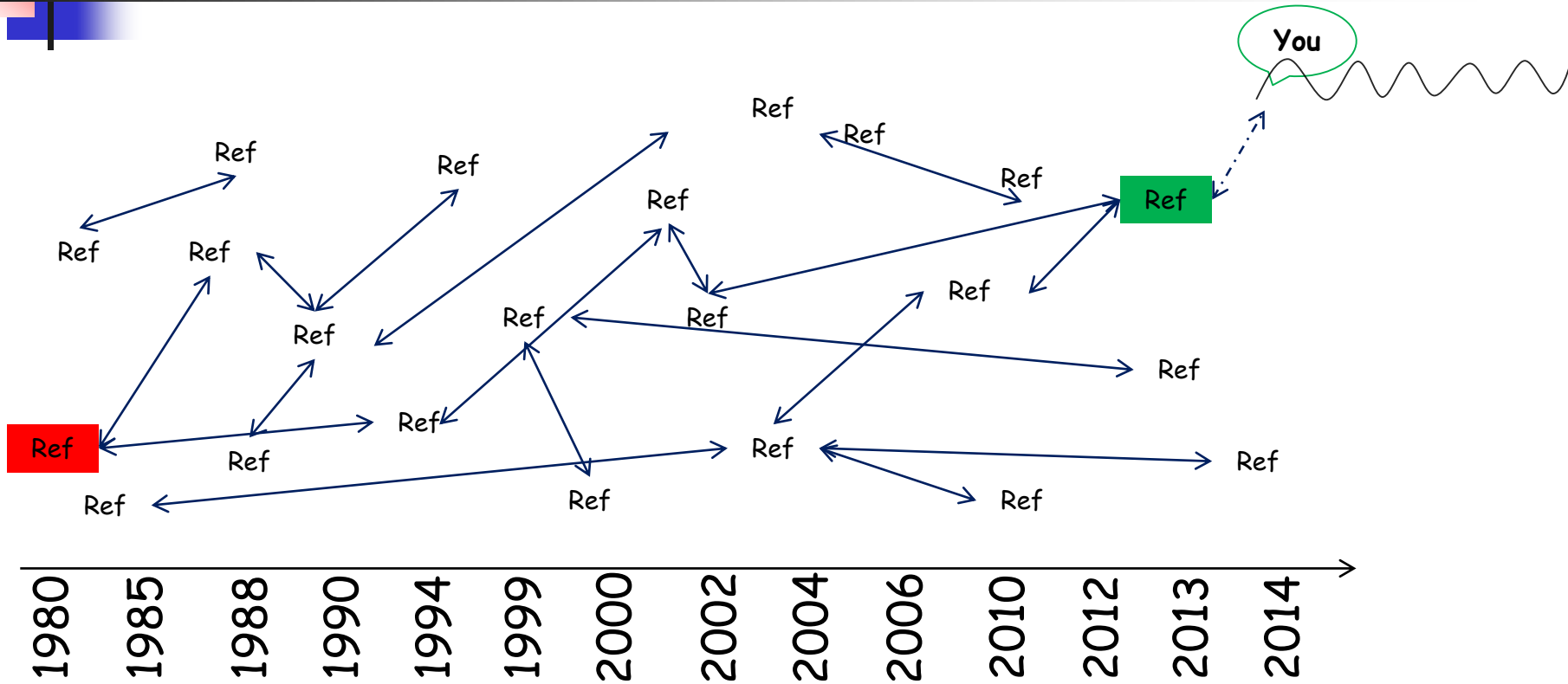
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Father paper

Mather, Father papers



Where are you now...

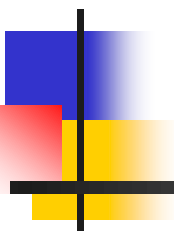




LR structure

- Start by **Father** paper
- .
- .
- .
- Roughly how many sources should you include?
- .
- .
- . Should you summarize, synthesize, or critique your sources by discussing a common theme or issue?
- .
- Highlight the **Mother** paper
- Talk about **the youngest paper** or **younger papers**
- .
- Should you evaluate your sources?

How can summarize a
paper and write about it in
LR?



Summarize a paper

No.	Date	Auth.	Prob.	Key.	Meth.	So.	Ana.	Fin.	F.W.
Ref 1									
Ref 2									
Ref 3									
Ref 4									
Ref 5									
Ref 6									

Paraphrasing the source in your own words, Please remember about **your Voice** !?!?!?!?!?

In 2004, AAAAA and BBBBB further studied the impact of password length and stroke-count as a complexity property of the DAS scheme. Their study showed that stroke-count has the largest impact on the DAS password space. The size of DAS password space decreases significantly with fewer strokes for a fixed password length. The length of a DAS password also has a significant impact but the impact is not as strong as the stroke-count. To improve the security, AAAAA and BBBBB proposed a "Grid Selection" technique. The selection grid is an initially large, fine grained grid from which the user selects a drawing grid, a rectangular region to zoom in on, in which they may enter their password (figure 3). This would significantly increase the DAS password space [20]. *This method just significantly increases the DAS password space but the lacks of DAS doesn't solve yet [24].*

Create a topic outline that traces your argument: First, Second, Third, ...

How can write the last part
of a LR?





Last part of a LR...

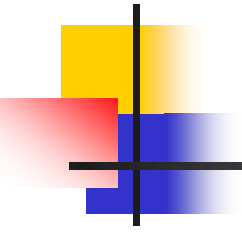
- You should evaluate your LR sources based on one of the testing and analysing techniques
- Summarise the important aspects of the existing body of literature
- Identify significant flaws or gaps in existing knowledge
- Outline areas for future study

Methodology:

Research MAP,
Mother, Father, Children papers

Next Session :

Step 5: Best Methodology for your research



*"There is no way to get
experience except
through experience."*