Goals of a Literature Review

- Understand the state of the art
  - What is current substantive knowledge?
  - What are the most important questions?
  - What research has been done most recently?
  - Who is doing the research?
  - What are they investigating?

- What is current methodological knowledge?
  - What research methods are being used?
  - What tools and techniques are being used?
  - How are results being analysed?
Why do a Literature Review?

• Help you understand current work in the field
• Can assist with understanding theoretical and practical problem
• Can assist with hypotheses
• Helps identify your contribution
• Provides a firm foundation for your work
• Increases chances of paper being accepted
  • Stops comments from reviewers such as, “This paper should have considered the work of Smith et al. who performed an experiment very similar to the one described in this paper”
Selecting Sources for Review

- You want to learn about an area
  - Look for textbook
  - If no textbook look for survey paper
    - e.g. ACM surveys, meta-analyses
  - If no survey papers, look into proceedings/authors
- Keeping up to date
  - Look at latest proceedings or papers in area
- Don’t rely on Google/open-access/online papers
  - Be aware that others do
Selecting Sources for Review

• Scientific articles
  • Follow the scientific method
  • Required to provide evidence for claims
  • Peer reviewed
  • Open to scrutiny and verification by readers

• Compare with
  • Commercial documents/reports
    • Beware of vendors’ white papers
  • Newspaper and magazine articles
    • May be exaggerated to sell more newspapers
Selecting Sources for Review

• Need to be selective
  • Search on Google Scholar in title field only (Jan 2014)
    • cryptography – 14,000 hits
    • cryptography “public key” – 7,550 hits
    • cryptography "public key" algorithms – 147 hits
      • If search is anywhere in article – 123,000 hits!
  • Be clear about scope of literature review
    • Driven by your research question
    • However, may need to search outside main field
      • e.g. use of Q methodology in privacy research
      • Using an existing technique in a new field
Selecting Sources for Review

- Google Scholar - http://scholar.google.co.uk/
  - Search by author, year, journal, keyword in contents and title
  - Exact phrase search
  - Number of citations
  - Links to SFX@UCL when connected to UCL network
- UCL’s metalib - http://metalib-a.lib.ucl.ac.uk
  - Search by author, title, year
  - Recommend “Advanced” search
  - Difference between searching on/off UCL network
Selecting Sources for Review

- Citeseer
  - Links articles to the ones they cite and the ones that cite them
    - https://citeseer.ist.psu.edu
- Researcher’s own page(s)
  - Often have free copies of their papers
  - Try a friendly e-mail 😊
- Conference proceedings
  - WEIS, NSPW, SOUPS, CHI, EuroCrypt etc.
Selecting Sources for Review

- DBLP
  - Computer science bibliography
  - Tabulates articles by:
    - Specific author
    - Specific conference or journal
  - http://www.informatik.uni-trier.de/~ley/db/

- Web pages
  - Articles in quality newspapers, reports, presentations, TV programmes etc.
  - Use with care!
  - Avoid a bibliographies consisting of mainly URLs
Selecting Sources for Review

- Identify key authors in the field
  - Seminal papers – look for lots of citations
  - Privacy – Nissenbaum, Westin, Acquisti, Cranor, etc.
- Questions to ask yourself
  - How relevant is this to my research?
  - How current is the work?
  - What have I not seen before?
  - Does it seem to be a credible source?
  - Is it well structured and easy to read?
Starting Out

• You will initially feel:
  • Overwhelmed
  • Ignorant
  • Confused
  • As though review will never end
• A methodical approach will assist you to:
  • Select the sources – begin to understand the problem
  • Do active/effective reading
  • Create a well-organised literature review
Starting Out

• The foundation of a good literature review
  • A good research question
• Identify important journals and conferences in your area
• Use an iterative approach
  • Initial research question scopes initial literature search
  • Refine the research question
  • New search with refined research question
  • Repeat as necessary
• The final scope of the review
Different Types of Reading

- Pleasure or general interest
  - e.g. fiction, magazines, blogs
- Functional
  - Aimed at achieving a specific goal
  - e.g. instruction manual, news
- Work
  - Also trying to achieve a goal
  - e.g. reports, news, research papers, contracts

- Don’t confuse them
Active Reading

- Has an objective and expectations
- Selective about the text
  - Selects which text to read
- Selective within the text
  - Only read sections which are important to you
  - Don’t necessarily read text from start to finish
- Critical
  - What is the quality of the source?
  - Critically read the text
Active Reading

- Ensures understanding
  - Re-reads text if necessary
  - Consult other sources
  - Come back to it!
- Probably uses printed version of text
  - Easy to annotate
  - Quickly move through text
  - Easier to cross-reference several documents
Effective Reading

• Work in correct environment
• Set goals for the reading
• Read in short sessions
  • Be realistic!
• Make notes – summarise what is being said
  • Reading off a screen is not sufficient
  • Use technique you feel comfortable with to organise knowledge
• Allow time to reflect and come back to the text
Managing Your Sources

• Use a bibliographic tool
  • Sometimes provides a plug-in for browsers and word processors
• Zotero bibliography management tool
  • www.zotero.org
  • Recommend standalone version
  • Plug-in for MS Word
  • Access via the web
• 12 minute ISD introduction to Zotero at http://www.ucl.ac.uk/isd/common/resources/snippets/zotero
Zotero
Mendely
EndNote
BibTeX

@article{silentknock,
  added-at = {2009-09-23T00:00:00.000+0200},
  author = {Vasserman, Eugene Y. and Hopper, Nicholas and Tyra, James},
  biburl = {http://www.bibsonomy.org/bibtex/2bc69b4cb8755a0854151bf2919b31a9/dblp},
  date = {2009-09-23},
  description = {dblp},
  ee = {http://dx.doi.org/10.1007/s10207-008-0070-1},
  interhash = {91dd7a9069e0df4a9a935240c30da1fe},
  intrahash = {bc69b4cb8755a0854151bf2919b31a9},
  journal = {Int. J. Inf. Sec.},
  keywords = {dblp},
  number = 2,
  pages = {121-135},
  timestamp = {2009-09-23T00:00:00.000+0200},
  title = {Silent Knock: practical, provably undetectable authentication.},
  url = {http://dblp.uni-trier.de/db/journals/ijisec/ijisec8.html#VassermanHT09},
  volume = 8,
  year = 2009
}

@inproceedings{bridgespa,
  author = {Smits, Rob and Jain, Divam and Pidcock, Sarah and Goldberg, Ian and Hengartner, Urs},
  booktitle = {Proceedings of the 10th Annual ACM Workshop on Privacy in the Electronic Society},
  date = {2011},
  isbn = {978-1-4503-1002-4},
  location = {Chicago, Illinois, USA},
  pages = {93--102},
  timestamp = {2011-03-17T20:46:56+0000},
  title = {BridgeSPA: Improving Tor Bridges with Single Packet Authorization},
  url = {http://doi.acm.org/10.1145/2046556.2046569},
  year = {2011}
}

@article{spator,
  title = {SPATOR: Improving Tor Bridges with Single Packet Authorization},
  author = {Smits, Rob and Jain, Divam and Pidcock, Sarah and Goldberg, Ian and Hengartner, Urs}
}

@techreport{optimizing_proxy_placement,
  title = {Optimizing the Placement of Implicit Proxies},
  author = {Jacopo Cesareo and Jos Sarlin and Michael Schapira and Jennifer Rexford},
  institution = {Department of Computer Science, Princeton University},
  month = {Jun},
  year = {2012},
}

@inproceedings{routing_around_decoys,
  author = {Schuchard, Max and Geddes, John and Thompson, Christopher and Hopper, Nicholas},
  title = {Routing Around Decoys},
}

Paper.bib
Critically Reviewing the Literature

- Questions to ask yourself
  - If relevant, does it follow the scientific method?
  - Is the method used appropriate?
  - Are the results valid?
  - Do the conclusions make sense given the findings and existing work?
  - Has this study been cited by others?
A Good Literature Review

• Begins with a well formed research question
• Explores the research question
  • What work has previously addressed this question?
  • What aspects of the problem are still unknown?
  • What have others argued?
  • What needs to be done?
  • How does this affect practitioners and theorists?
• Is founded on existing & accepted theories
  • Is not simply a list of URLs
A Good Literature Review

- Locates all relevant literature
- Has a logical structure - structured by
  - Themes
  - Time
  - Experiments/trials
  - Different research approaches
  - etc
- Critically reviews the literature
  - Not just a simple catalogue of the literature
- Justifies the reason for the research
Citations are important!

• Bedrock of academic honesty
• Avoids claims of plagiarism
Citations

• Students often get citations wrong
  • Over cite, under cite or not cite at all
  • Reader can’t see an obvious research trail
  • Quoting irrelevant sources
  • Too few or too many references
  • Wrong or mixed citation styles
  • Difficult to locate referenced sources
  • Bibliography mainly consisting of URLs
  • Forgetting page reference on quotes
  • ......
Citations

• Must not copy text, ideas, analyses, etc. unless source is clearly indicated
• Must make it clear where you have used, or referred to, others’ work/ideas/comments
  • If in doubt, cite!
• Reader should be able to locate your sources
  • Some journals only allow publicly available works to be referenced
• Refer to your sources unambiguously
Citations

• Use citations when
  • Quoting verbatim
    • e.g. In their study Smith et al. (2006, p.26) concluded, “ [...] people generally ignore security warnings, if they believe there is no immediate or obvious danger to them”
  • Referring to existing research, particularly in the related work (literature review) section of a paper
    • e.g. Although people’s actual behaviour has previously been found to be non-privacy protecting [10,45,56], this may be because of poor user interfaces [23,30], or users’ goal-driven behaviour [15,21,29]
  • Use to build your “state of the art” argument
Citations

• Use citations when
  • Indicating that work or idea is by someone else
  • Paraphrasing
    • Same meaning but different words
    • e.g. Peoples’ stated privacy preferences do not match their actual privacy behaviour (Norberg et al., 2007)
  • When copying a figure, graph, or table (beware copyright)
  • There is background material you believe the reader may wish to refer to
  • Other reasons to refer to work outside your paper
Citations

- No need to cite when
  - You have discovered the facts yourself
  - It is an original idea, theory etc.
  - It is common knowledge
    - e.g. electromagnetic radiation which can be seen by the human eye is known as visible light
    - Sometimes hard to define “common knowledge”
Citations

• Good citing is almost an art – no single rule
  • Experience in writing and reading papers will help you

• Two mandatory components of a citation:
  • In the text itself
  • In the reference list

• The reference list may be
  • At the end of the paper (bibliography)
  • As footnotes (common approach for legal articles)
Citations

- Citations may look like
  - “Previous experiments indicate a possible link (Smith et al., 2006)”
  - “Previous experiments indicate a possible link [1]”
  - “Previous experiments indicate a possible link [SBW06]”

- Many different citation styles

- Generally two types
  - Author-date - e.g. (Jones, 2006)
  - Numeric - e.g. [1]
  - But there are others – e.g. [MS12]
Citation Styles in Zotero

Zotero Style Repository

Here you can find Citation Style Language 1.0.1 citation styles for use with Zotero and other CSL 1.0.1–compatible software. For more information on us

Style Search

Format: author author-date label note numeric

Fields: anthropology astronomy biology botany chemistry communications engineering generic-base geography geology history humanities law linguistics literature math medicine philosophy physics political-science psychology science social-science sociology theology zoology

6,780 styles found:

- 3 Biotech (2013-05-10 09:45:15)
- 4OR (2013-05-10 09:45:15)
- Academic Questions
- Academy of Management Executive
- Academy of Management Journal
- Accident Analysis and Prevention
- Accounting Forum
- Accounting History
- Accounting, Organizations and Society
- Accounts of Chemical Engineering
- Accreditation and Compliance Resources

Citations

• Make sure you pick the correct citation style for the journal, conference etc. you are submitting to

• Using a bibliographic tool like Zotero you can switch between citation styles very quickly
  • www.zotero.org

• Generally, in UCL Computer Science assignments citations are numeric, e.g. [1], or hybrid, e.g. [SJ02]
Goals of citations

- Shows reader you have carried out a thorough literature survey
- Makes reader more likely to view the results of your study seriously/favourably
- Shows respect for the ideas of others