CompSci 725
Oral and Written Reports

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Assessment: 15% oral report

- During a lecture period, you will deliver an oral presentation on a "classic" article in the security literature.
- Marking scheme:
  - ➢ 1 mark, for rehearsing your presentation at a tutorial the week *before* your presentation. (You must schedule this rehearsal via Canvas – but I don't yet know how to set this up!)
  - ➢ 1 mark, for a title slide with your name and accurate bibliographic information on the article you're discussing in your presentation.
  - ➢ 2 marks, for your one-slide summary of the article. You may quote the topic sentence from the abstract of the article (if it has a topic sentence). Your summary must be appropriate for *your* presentation: it should mention the aspect you discuss in detail.
  - ➢ 1 mark, for delivering the presentation in 8 to 12 minutes.
  - ➢ Plus another 10 marks for:
    - ▪ identifying (2 marks) an aspect (e.g. a concept or a technical consideration) that is either discussed in the article, or which *should* have been at least mentioned in this article,
    - ▪ which is worthy (3 marks) of careful consideration by your classmates, and
    - ▪ which you adequately explain in one to four slides (5 marks).
- Note: the aspects selected by you, and your classmates, are examinable.
  - If you select a trivial aspect, you won't succeed in arguing that it is worthy of consideration.
  - If you select a complex technical concept, then you won't succeed in explaining it adequately.
  - Your most important task, when reading the article, is to decide "what would be a good focus for our attention the next time someone reads it?"
  - Try to persuade your classmates to read the article again, to learn more about what you have discussed!

Example of an Aspect

- In <u>Abadi96</u>, the authors assert (in Principle 3) that the omission of two names in Message 3 of the protocol of Example 3.1 has "dramatic consequences".

  - This article didn't adequately explain why these consequences are dramatic.

  - In my presentation, I'll explain this drama and why security professionals should learn how to avoid it.

An Aspect of Another Article

- In <u>Birrell85</u>, the author asserts that the use of CBC mode of DES encryption in their RPC protocol "reduces the probability of most undetected modifications to 2^{-64}."

  – The author reminds the reader that an attacker can guess a DES encryption key with probability 2^{-56}.

  – I'm confused by this: does Birrell believe that attackers will make random modifications, without even bothering to guess a key?

  – In my presentation, I'll discuss some other assertions in Birrell85 about the security of this RPC protocol, in an attempt to determine whether or not it should be considered a "secure protocol" or is merely a promising start on one.

A Temptation You May Feel

- You *might* be tempted to start reading other articles, to learn more about your "aspect" before finalising your oral presentation.
  - Resist this temptation!
  - Stay focussed on the article you're presenting!
  - As soon as you're done with your oral presentation, give in to the temptation – and you'll then be making an excellent start on your written report. We'll discuss this later…

Slideshow Length

- You should prepare five to nine slides for an eight- to twelve-minute seminar.
- If you spend less than one minute on a slide, it should have very little technical content.
  - You might devote 20 seconds to your title slide.
- If you spend more than two minutes talking about a slide, you should probably split its content into two slides.
  - Your important points should be made verbally, as well as in writing.
  - Your slideshow should tell a coherent story.
  - Your verbal comments should help your audience understand your story.

Creating your Oral Presentation

1. Read your article again, to identify an interesting aspect that you can explain.

2. Construct a first draft of your presentation: use PowerPoint or your favourite presentation builder (but not a document editor such as MS Word)

3. Rehearse your draft presentation by yourself, and then rehearse with a friend.

4. Revise your draft presentation after each rehearsal. Add a question if you haven't done so already.

5. Deliver your draft presentation at a tutorial, in the week prior to your scheduled presentation date at COMPSCI 725 lectures. (Carry your presentation file to the tutorial room on a USB stick, or on your laptop.)

6. Prepare a final version of your presentation slides, after hearing comments from the lecturer and other student(s) at tutorial.

7. Carry your final-version presentation slides to the COMPSCI 725 lecture on a USB stick, on the day scheduled for your presentation. Your presentation file will be mounted on the class website.

8. You'll probably spend **10 hours** preparing a good 10-minute presentation!

Your Lecturers' Expectations

- Each presentation will be focused on *one* interesting or important aspect of a technical article.
  - Each presenter will develop their own point-of-view on their article.
  - Multiple students may present on similar aspects of the same article.
- Non-presenters will read each article *before* its presentation begins.
- All students will participate, at least occasionally, in the classroom discussions held after each oral presentation.
  - We will discuss similarities and differences in our points of view.
  - Some of us may have some relevant experience or knowledge.
- All students will develop a working knowledge of what was presented and discussed in class.
  - This knowledge will be tested in your final examination.

Assessment: 25% written report

- Primary requirement: You must demonstrate your critical and appreciative understanding of
  - at least **three** professional publications relevant to software security.
  - At least **one** of your references must be a required reading for this course.
  - You must also cite and (at least briefly) discuss **any other** required class reading that is closely related to the topic of your term paper.
- Additional (form & style) requirements: see the next slide.
- I will publish your paper online, if you request this:
  - http://www.cs.auckland.ac.nz/courses/compsci725s2c/archive/termpapers
  - Your paper might be used by other scholars, see e.g. http://scholar.google.co.nz/scholar?hl=en&q=A+Taxonomy+of+Methods+for+Software+Piracy+Prevention&btnG=&as_sdt=1%2C5&as_sdtp=

Additional Requirements on Written Reports

- If you use someone else's words, you must put these in quotation marks and add a reference to your source.
  - I will report extensive plagiarism to the HoD, for possible disciplinary action.
- Use your own words, except when quoting definitions or other people's opinions.
  - Light paraphrase (i.e. changing a few words) of a declared source implies that you have a very poor understanding of the technical meaning of your source material.
  - Light paraphrase of an undeclared source is plagiarism – and it implies that you have tried to hide your plagiarism by paraphrasing. Declare your source!!
- Technical words must be spelled and used correctly.
  - You should use a spell-checker and a grammar checker (e.g. MS Word), however we will not mark you down for grammatical mistakes and spelling errors on non-technical words (if your meaning is clear).
- Your report *should* consist of eight to twelve pages of 12-point type with generous margins and 1.5 line spacing.
  - Enforcement is indirect. A longer paper takes much longer to write well. A shorter paper is unlikely to show strong critical and appreciative understanding.
- *Try to* match the style of one of the articles you read in this class.
- Reports are due at 4pm on Friday 13 October.

Assessment of Written Reports

- 20 marks: Sources
  - Are your sources relevant and professional?
- 30 marks: Accuracy of Transcription
  - Should a professional rely on the information you present in your report?
- 50 marks: Depth of Interpretation
  - Would a professional learn anything important by reading your report?

Sources (20 marks)

- 0 marks: relies heavily on facts and interpretations found in non-authoritative sources.
  - A Wikipedia article *might* have accurate information. Read one of its cited sources!
- 10 marks: report relies heavily on articles that are written for non-specialist technical audiences.
  - e.g. most articles in *IEEE Computer*, *IEEE Security and Privacy*.
- 20 marks: report relies primarily on three articles written by and for specialists.
  - You may cite additional articles.
  - All of the articles on your oral-presentation list appeared in specialist venues, except <u>Avancha 2012</u> and <u>Englehardt 2016</u>.
  - Look for a bibliography!
    - If you're reading an article that doesn't have a bibliography, or one which cites only ephemera such as webpages, you cannot check its sources reliably.
  - An article that is "telling a story" may give you some useful ideas, but you should find (and cite) reliable sources for your report!

Accuracy (30 marks)

- 0 marks: if we notice frequent spelling errors, inaccurately-transcribed technical content, or very careless formatting.
  - If you're reading a report that has been carelessly prepared, would you trust anything you read?
- 30 marks: if we *don't* notice any misspelled or misused technical words, nor any other error which could have been caught by a reasonably-careful proofreading and fact-checking.
  - This includes the bibliography. When we're fact-checking, we will attempt to read the same source as you did, so you must provide us with adequate and accurate bibliographic detail.
- Don't worry about the fine points of English grammar!
  - We'll be reading for technical content.
  - If your meaning is clear to us, then your grammar is "operationally fit for purpose" – even if it isn't formally correct.

Technical Depth (50 marks)

- 0 marks: if technical material is paraphrased, without any indication of the student's understanding
- 10 marks: if the student's writing exhibits some technical understanding of one source
- 20 marks: if the student's writing exhibits some technical understanding of individual sources
- 30 marks: if the student's writing exhibits some ability to develop a valid point of view that's based on multiple sources
- 40 marks: if the report does a good job of comparing and contrasting technical information from multiple sources, or if it synthesises technical information in some other non-trivial and valid way.
- 50 marks: if the report does an excellent job of synthesising information from multiple sources, developing a non-trivial conclusion or insight.

Getting Started

- When reading your article for your oral report, you should think about using it as a basis for a written report.
  - You may start from any other required reading, including Lampson04 ("Computer Security in the Real World").
- Structural ideas:
  - Compare/contrast your article's technology (or analysis, or research finding, or some other aspect) to another published work.
  - Think about how your article could be extended, find one or two articles discussing a similar extension, then write about the feasibility and desirability of this extension.
  - Clarify a point of confusion or difficulty in your article. (Did anyone citing your article mention this problem?)
  - Formulate a "research question", and update it as you learn more. Try to form an interesting question which you can answer in your term paper. (Draw the bulls-eye around your arrow ;-)

Suggested Search Process

1. Find at least one "good" source, from your required readings.
2. Find more good sources by…
   a) Finding sources that cite your "good" source (use Google Scholar, CiteSeer, or Web of Science).
   b) Finding sources that are cited by your "good" source (use its bibliographic information)
   c) Finding other sources written by the author(s) and co-authors of your "good" source (use www.google.com to find their website; use http://www.informatik.uni-trier.de/~ley/db/ to find their pubs)
   d) Identify key words and phrases, use these to search with Google scholar, library databases.
   e) Look at "nearby" articles: same journal, same conference.
   f) If you're using GoogleScholar, you'll have to ignore ephemera, books, and other unsuitable sources.
3. Narrow your topic, to limit the number of relevant sources.
   a) You should find two or three highly-relevant sources. Ideally you would be confident that other scholars on the same topic would identify these same sources.

Feedback on a Proposed Topic

- Students who would like early feedback from an instructor on their written report should upload a file to Canvas (at https://canvas.auckland.ac.nz/courses/14777/assignments/33879) by midnight on Friday, 26 August with
    - A synopsis or proposed topic (one or two sentences; not just a word or phrase),
    - Bibliographic detail on a "base" article (this should be a required reading), and
    - Bibliographic detail (at least author, title, DOI, year) on at least one other proposed reference.
- I will endeavour to give you some helpful feedback on your proposal by the end of the mid-semester break (Sunday, 11 September).
    - I'll award 1 mark for any reasonable submission.
    - Note: if you haven't started working seriously on your written report *before* the mid-semester break, you have fallen behind!